THE MAGAZINE OF

Standards

. . . how to measure the area of school buildings — page 321

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ASA

Our Cover

The Palmer Elementary School at Grand Rapids, Michigan, opened in 1954, is typical of modern school construction. Unlike schools of a generation ago, today's schools are mostly designed with all classrooms and administration rooms on one floor. American Standard methods of measuring usable areas make it possible to compare costs (page 321).

ASA

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FEATURES

NEWS

COLUMNS

DEPARTMENTS

. . . . marginal notes

• **An urgent challenge** was flung at standards at the annual meeting of the Standards Engineers Society at Philadelphia (page 330). In a plea for reliability of parts hitherto unknown in industrial production, H. Thomas Hallowell, Jr, ASA's president, declared that standards committees today are old-fashioned, influenced by the thinking of yesterday. Times are changing, he pointed out. Impossible requirements must be met economically. Therefore, standards must be upgraded.

Mr Hallowell's plea was impressive in view of the insistence throughout the meeting on present and coming demands for new materials and equipment to meet fantastic requirements of heat and cold, speed, weightlessness, and operation without failure.

If standards are to play the vital role needed by the USA to stay ahead in the space age, standards men must take responsibility when they are sure they are right, and must stand up in a standards meeting and convince the other fellows, he said. But, he emphasized, they must also be willing to be convinced when the other fellow has something of importance to offer. Through ASA procedure, standards men have an opportunity to do this, Mr Hallowell pointed out.

Norman L. Mochel, past president of the American Society for Testing Materials, was also concerned because, he said, too many times decisions on standards are arrived at through fear of mistakes and loss of money. Standards should be looked upon as a new, tried platform on which we can rest before we move on to new platforms, he said. But, he declared, "I object to spending money, time, and energy in creating new standards or revising old ones if those involved are good."

Mr Mochel didn't say so, but the procedures of ASA encourage this very thing. ASA rules call for reviewing an American Standard every five years. If the standard is still good, as often happens, the committee in charge can recommend that the existing edition be reaffirmed. Thus a good standard need not be lost. If the standard is out of date, the committee immediately starts work to revise it in line with up-to-date practice.

ASA members and their representatives on standards committees have an urgent responsibility to see that American Standards meet the challenge of the space age!

• **The Index to Volume 29,** 1958, of THE MAGAZINE OF STANDARDS will be published as Part 2 of the December issue.

This Month's Standards Personality

E. O. MATTOCKS is firmly convinced that standards pay. As director of the Technical Services Department of the American Petroleum Institute, Mr Mattocks is responsible for API's fundamental research, its safety and fire protection program, its work in agriculture, and also its far-reaching standards and codes. This responsibility for standards has led to work outside his own organization, in cooperation with many other national organizations, on development of generally acceptable American Standards.

As of January 1, 1958, Mr Mattocks represents the American Petroleum Institute on the Standards Council of the American Standards Association. This gives him a direct voice in deciding over-all standardization policy questions and appeals on the approval of American Standards.

Mr Mattocks believes that American industry must take responsibility for standards that affect its operations. He also believes in the consensus principle on which ASA's procedures are built.

"In the event of a compelling demand," he says, "a standard should be developed by an agency having representation and procedures which will ensure adequate hearing of all interested parties."

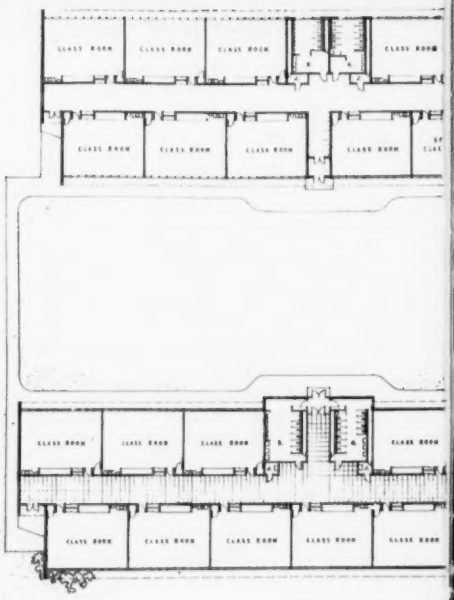
He emphasizes that "By their very nature, governmental agencies usually are unlikely to provide full representation and participation of all parties that may be affected by the establishment of standards." However, he points out, "Financial and other limitations of non-governmental standardization agencies have tended to favor a growth in standardization by governmental agencies."

As a result of this thinking, he draws the conclusion, "Unless producers and users take advantage of the American Standards Association to establish standards as demand therefor arises, government undoubtedly will do so, and in all likelihood may establish standards less satisfactory to all concerned."

Mr Mattocks has developed this philosophy as the result of his experience in the gas and petroleum industries. Following graduation from Cornell University with an M.E. degree in 1926, he spent five years in the gas utility business, then was concerned with research, first at the American Gas Association Testing Laboratories, later for the Phillips Petroleum Company. He joined the staff of the American Petroleum Institute as engineer in charge of Engineering and Research Services in 1950. He became assistant director of the Department of Technical Services on January 1, 1952, and assumed the duties of director in January 1957.

Mr Mattocks' activities in ASA have included work on several standards boards, a number of sectional committees, and on the important Committee on Procedure (the ASA's Rules Committee). He also helped to define the scope of ASA's activities as a member of the committee that developed the policy approved in 1957 by the Standards Council and Board of Directors. His ability to pinpoint the essential fact in any problem has been of inestimable help to each group with which he has been associated, those working with him agree.

STANDARD METHODS OF AREA MEASUREMENT



WHAT THE COMMITTEE ON MEASUREMENT OF BUILDING AREAS IS DOING

by HENRY LEAR

Chairman, Sectional Committee Z65

In the March 1956 issue of this magazine, I had the pleasure of announcing the approval and publication of a new American Standard, Method of Measuring Rentable Areas in Office Buildings. This standard has been widely used and has been published in numerous trade publications in this country and in six or seven other countries. The importance people attach to an American Standard is impressive.

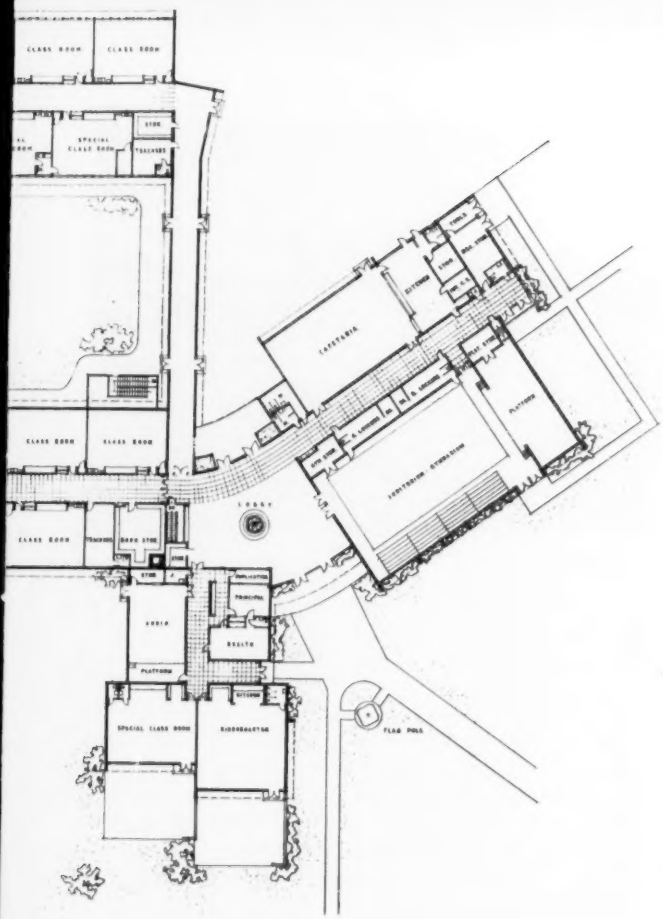
In the 1956 announcement I said that there were four more standards to be worked on — concerning schools, public buildings, hospitals, and industrial buildings. It is a pleasure now to announce the adoption of two of these four standards, one on the measurement of areas in schools and the other on public buildings.

The chairman of the Subcommittee on Public Buildings is Charles A. Peters of the General Services Administration. He has done a praiseworthy job in developing the new American Standard, Z65.3-1958. This was a difficult standard because of the very wide scope of "public buildings," ranging from city halls to monumental structures, office buildings, warehouses, and all kinds of special structures. To develop one method for measuring all these widely different buildings took a great deal of care. Details of the standard itself are presented by Mr Peters in this issue, page 323.

N. E. Viles, Office of Education, U.S. Department of Health, Education and Welfare, is chairman of the committee for determining areas in school buildings. Here, there were also many problems. It was necessary that one method of measurement be applied to older school buildings as well as to the very modern new buildings that are being constructed all over the country. There was also a problem because of the difference in school buildings in the northern, colder part of the country and in the part of the country where areas open to the weather can be used successfully. The standard on schools is, of necessity, rather more detailed than the other standards but it was felt that in order to accomplish its purpose it was necessary to spell out the various items to meet all foreseeable measurement problems.

Dr Viles describes the details of the standard developed by his subcommittee in this issue, page 321.

The conscientious attitude of the chairman of the subcommittees and the members of the full committee is extremely gratifying. There has been no indifference. All the questions that have arisen have been thoroughly aired. Everyone has had an opportunity to make his views known, and these views have all been considered by the other members of the committee. It has been a privilege, as chairman of this committee, to work with all these men. The committee looks forward to completing the next two standards on hospitals and industrial buildings.



FLOOR plan of a typical school illustrating problems in measuring gross area, and also the various instruction, circulation, administration, and other interior areas.

HOW TO MEASURE THE AREA OF SCHOOL BUILDINGS

by RAY L. HAMON and N. E. VILES

DR HAMON, chief of the School House Section, Division of School Administration, Office of Education, of the Department of Health, Education, and Welfare, Washington, D.C., represents the Department on Sectional Committee Z65.

MR VILES is specialist for school plant management of the Division of School Administration, and is chairman of the Z65 subcommittee for determining areas in school buildings. He represents the National Council on School Construction on Sectional Committee Z65.

FOR MANY YEARS there has been felt a need for a generally accepted formula for measuring the areas of educational buildings. This need has been greatly intensified by the increasing tendency to compute pupil capacities of buildings and building spaces on the basis of the number of square feet per pupil; the allocation of some state financial assistance on the basis of area; and by a common practice of calculating building costs on a square foot basis.

Professional educators, architects, and the lay public speak often of the cost per cubic foot, cost per square foot, cost per student, and cost per classroom. Such unit measures are based directly or indirectly on a measure of area.

Under previous patterns, the development of area measurements for educational structures sometimes involved complicated procedures. For example, several persons of equal competency could measure a given building or set of drawings and obtain quite different answers as to gross area. This problem has become increasingly important because of many contemporary designs featuring the indoor-outdoor relationship, overhangs, and unenclosed covered passageways. The measurements of interior areas and space for the various activities are even more complicated and confusing.

The gross area of public and non-public school and college buildings now in use in the United States is probably in the neighborhood of 4 billion square feet, and under current programs new school construction probably exceeds 200 million square feet per year. Although varying area measurement techniques may continue to be used by some people for specific or different purposes, it is highly desirable that there be established a *standard* method of area measurement so all concerned can speak in common terms when comparing costs per square foot, and the square foot areas per student or per classroom. Area could then be referred to in square feet as per this standard formula, and supplemented by any other data considered desirable.

The need for uniform area measurement techniques applies to other types of buildings as well as to schools and colleges. This need has long been recognized by

Hube Henry, Hedrich - Blessing

HOMEMAKING at the foods laboratory—— Lincoln-Way High School, New Lenox, Ill.

Joseph W. Molitor

A MODERN school in an attractive setting——Barringer Elementary School, Charlotte, N.C.

those responsible for the planning and management of office buildings, public buildings, industrial plants, and hospitals.

It was decided early in the deliberations of the Z65 Committee that all subcommittees would agree on a formula for measuring gross area, and that each subcommittee would supplement the gross area formula with a method of measuring interior areas, according to types of spaces or uses as determined by the subcommittees for their respective types of buildings.

One of the subcommittees organized under the Z65 Committee was for schools. This subcommittee consisted of Ray L. Hamon, John W. Lewis, John W. McLeod, Francis R. Scherer, Donovan E. Smith, Wallace P. Wetzel, and N. E. Viles (chairman). This subcommittee membership represented the Office of Education, Association of School Business Officials, National Council on Schoolhouse Construction, National Federation of College and University Business Officers Associations, National Association of Physical Plant Administrators for Colleges and Universities, National Fire Protection Association, and the School Building Committee of the American Institute of Architects.

In order to satisfy this growing need for standard methods of area measurement, the American Standards Association, on January 15, 1953, organized Committee Z65 on Building Areas under the joint sponsorship of the National Association of Building Owners and Managers and the Office of Education, U. S. Department of Health, Education, and Welfare. Under this parent Z65 Committee, several subcommittees were organized for the different types of buildings.

The Subcommittee on Schools accepted the general definition on gross area as developed by the Z65 Committee. The subcommittee then set up a classification of the various spaces in school and college buildings and developed a procedure for measuring such areas. The work of the subcommittee was conducted through a number of meetings and conferences and an extensive exchange of correspondence. As indicated, the participating educational organizations were interested in elementary, secondary, and college buildings. The gross area definition adopted is intended to apply to all elementary, secondary, and college school buildings. The supplementary classification of interior areas now developed applies primarily to elementary and secondary school buildings. Additional supplementary definitions of interior areas may be needed for college and university buildings.

In carrying out its assignment, the subcommittee, through its chairman, maintained close liaison with other subcommittees and with the Z65 parent committee. The completed standard of the Subcommittee on Schools was submitted to each of the participating educational organizations for acceptance. Following this, the subcommittee recommendations on schools were submitted by letter ballot to representatives of each of the 20 organizations represented on the Z65 Sectional Committee. The sponsoring agencies then recommended that it be adopted by the American Standards Association as an American Standard Method of Determining Areas in School Buildings. This approval was completed by the American Standards Association August 4, 1958.

Copies of American Standard Methods of Determining Areas of School Buildings, Z65.2-1958, may be obtained from the American Standards Association at 75 cents per copy.

STANDARDS TELL HOW TO MEASURE FLOOR AREAS IN PUBLIC BUILDINGS

Photos—Ewing Galloway, unless otherwise indicated

NOW space costs can be compared for public buildings of widely differing designs: (left) *plainly functional, The Criminal Courts Building in New York City;* (right) *setback style, Houston's City Hall.*

by CHARLES A. PETERS

Assistant to the Commissioner, Public Buildings Services, General Services Administration; chairman of Z65 Subcommittee on Public Buildings.

SOON AFTER ASA Sectional Committee Z65 on Building Areas[1] was established in 1953, it became apparent that the total problem extended into so many fields that it would be necessary to separate the subject into several areas of interest. In this way, each could be studied by persons having paramount interest in that particular field. Subcommittees were accordingly established. One was charged with the development of standard methods for determining areas in public buildings.

[1]Organized under the co-sponsorship of the National Association of Building Owners and Maangers and the Office of Education, U.S. Department of Health, Education, and Welfare, for the purpose of developing standard methods for determining areas in buildings.

The chairman of the subcommittee was the representative on Sectional Committee Z65 of the General Services Administration. This organization is the principal landlord of the civilian Federal Government agencies for general-purpose space. It is custodian and operator of more than 71 million square feet of Government-owned space and lessor for occupany by Government agencies of more than 34 million square feet of commercial space. Other Federal Government agencies represented on the subcommittee were the Department of Agriculture, the Department of Defense, the Post Office Department, the Treasury Department, and the Veterans Administration. Although, as stated, the General Services Administration is the principal landlord to

TACOMA Public Library, Tacoma, Wash.

UNITED States Court House, Seattle, Wash.

BROOKLYN Public Library, Brooklyn, N.Y.

. . . STANDARDS USED FOR MEASURING FLOOR AREA IN

the civilian Government agencies for general-purpose space, all of the agencies represented on the subcommittee are substantial providers of space to their own agencies for their own special purposes.

Representation on the subcommittee was solicited from public bodies and associations of public bodies other than agencies of the Federal Government. The impression was gained, however, that no one of them considered that it had a sufficient stake in the problem to justify its full time participation.

As pointed out by Henry Lear, chairman of Sectional Committee Z65 in an article in 1956[2] there was no problem of how to measure the space physically. It was a simple matter of length in feet times width in feet giving a product in square feet. The problem existed in reconciling the different ideas as to where to fix the starting point and the finishing point for the measurements. Also, there was the problem of what we were going to call the different kinds of space that exist in a building and that go to make up the total. The subcommittee decided that the problem, therefore, consisted of identifying the methods to be used in the measurement of space, as well as the nomenclature of the various categories of floor areas that go to make up the total area of any building. The Public Buildings Subcommittee felt that, while in many respects its interests were similar to those of the Office Buildings Subcommittee, it had wider interests as well. This made the problem perhaps a bit more difficult, even though, because of the greater unanimity of interest, it might at the same time be somewhat less controversial.

The field of public buildings as contemplated by the subcommittee includes buildings owned by a public body, be it federal, state, county, or municipal, as well as commercial buildings rented by the public body.

When a public building is being designed and constructed, it is a matter of concern to obtain the greatest ratio of usable or assignable space to the total out-to-out building space or gross space. Unless the same criteria are used in making these space comparisons, the ratios obtained in different buildings and which measure the relative efficiencies of the building designs will be meaningless. It will not be known whether a particular design is efficient or wasteful in the use of space.

Operators of public buildings should be able to compare the operating costs of buildings so that they can apply remedial measures where needed in order to keep costs reasonably in line. Unusually high unit costs at a particular building for a particular operation will spotlight the need for an examination of that operation to see why the costs are high. Such an examination will usually reveal the cause and at the same time give indication of the action necessary to be taken in order to correct the condition. Accurate cost comparisons cannot

[2]"How to Measure Rentable Office Space," by Henry Lear, MAGAZINE OF STANDARDS, March 1956, page 80.

A. Devaney, Inc., N.Y.

COURT House, Newark, N. J.

PUBLIC BUILDINGS

be made, however, unless the space is all figured on the same basis and we know that the kinds of areas we are talking about in each case are precisely the same.

In addition to insuring that we use standard methods in arriving at building areas in publicly owned buildings for operating cost comparisons, it is beneficial if we can have our areas and costs on a similar basis to those used in commercial office buildings. Building operating costs financed by public funds should compare favorably with commercial building operating costs insofar as the items of expenditure are common to the two classes of buildings. A careful comparison and analysis of any differences found cannot be made unless the basis of comparison is essentially the same. The Public Buildings Subcommittee adopted a definition of "assignable area" which identifies the same space for its purposes as was given the title "net rentable area" by the Office Buildings Subcommittee. The Public Buildings Subcommittee's definition goes into somewhat more detail, but a careful review will reveal that it describes the same area covered by the Office Buildings Subcommittee's definition.

This naturally brings us to the commercial buildings rented by public bodies to augment the space in publicly owned buildings in order to house the federal, state, county, or municipal activities. In prior years (particularly before the Office Buildings standard was adopted), when commercial space was rented by, for example, the Federal Government, the area of the space as quoted in the lease might have been the actual net usable office area available for assignment for use by personnel, what we now call "assignable area." On the other hand, the area quoted in the lease might have been what we now call the "gross area," the "inside gross area," or it might have been the "inside gross area" minus the "custodial area" or any combination of these. None would necessarily have had any relationship to the amount of space that could be used by a tenant which, after all, is the basic factor that must be considered in any acquisition of space.

The subcommittee adopted four definitions as standard for the measurement of areas in public buildings. The titles of these are Gross Area, Inside Gross Area, Assignable Area, and Custodial Area. It was considered that these would afford the basic tools needed for use by building designers, operators, space assignment personnel, and occupants.

It does not necessarily follow that all of the agencies that were represented on the subcommittee have themselves as yet fully put into effect the standards that the subcommittee adopted. The discussions of the group took place periodically over a period of more than two years. Suggestions were made, explored, and discarded. Others were adopted, after further discussion and compromise. The question of the detail that should be gone into was ever present. For example, the term "assignable area" has the same meaning as the commercial term, "net rentable area." The number of words taken to define it, however, is probably more than twice that taken to define the latter term. The reason for this is not obscure. The term as given in the Office Buildings Standard is intended to be sufficiently meaningful to the tenant in the landlord-tenant relationship without introducing more detail than necessary. Where the landlord and tenant are, in the larger sense, one and the same, for example where the Federal Government is landlord for the Federal Government as tenant, other details may be introduced which will assist in resolving special situations.

The final result is presented as the best thinking of all of the interested persons who took part in the work of the subcommittee. The subcommittee believes that this standard represents a substantial step forward in reducing to a common meaning the heretofore varied and miscellaneous terms that have been used in connection with the measurement of floor areas in public buildings. It believes also that there will now be a better understanding between the public bodies that lease commercial office building space, and the lessors thereof.

A word of commendation is well deserved by all of the members of the subcommittee for the energy and interest which they exhibited in carrying out the assigned task. Their cooperation, along with that of the agencies which they represented, and the other interested Government agencies as well, greatly facilitated the satisfactory completion of the assigned project.

American Standard Method of Measuring Areas of Public Buildings, Z65.3-1958, can be obtained from the American Standards Association at 50 cents per copy.

international agreement on standards grows

. . . for motion pictures

by PAUL ARNOLD and J. HOWARD SCHUMACHER

THE GREAT IMPORTANCE of motion pictures in the life of many nations throughout the world was emphasized by the attendance of over 50 delegates from 12 nations at international standards meetings this year. After previous international meetings in 1952 and 1955, a third meeting of the Technical Committee on Cinematography, ISO/TC 36, was held at Harrogate, England, June 16 to 20. The committee operates under the leadership (secretariat) of the American Standards Association.

The interest of so many countries in developing international standards for motion pictures resulted in the unprecedented adoption of 33 resolutions and 12 international proposals. The proposals will be circulated by ASA, Secretariat of TC 36, to the member bodies of the international committee for consideration and for their recommendations on approval as ISO Recommendations. Countries active in the development of international standards for cinematography are:

Belgium	Rumania
Czechoslovakia	Sweden
France	Switzerland
Germany	Union of Soviet Socialist Republics
Italy	United Kingdom
Netherlands	United States of America

The United States was represented at the meeting by E. W. D'Arcy, D'Arcy Magnetic Products; Raymond Davis, National Bureau of Standards; W. F. Kelley, Motion Picture Research Council; C. G. Mayer, Radio Corporation of America; J. G. Mulder, Eastman Kodak Company; M. G. Townsley, Bell & Howell Company; J. L. Tupper, Eastman Kodak Company, and Dr D. R. White, E. I. du Pont de Nemours & Company, leader of the delegation.

The 20-point agenda included subject material pertaining to film dimensions, screen luminance, magnetic sound reproduction characteristics, 35mm and 16mm camera and projector image areas, safety film, 35mm and 16mm and 8mm camera and projector spools and reels, measuring and marking of sound film, film leaders and trailers, and picture areas for television. Revision of the scope of Technical Committee 36 regarding liaison with other groups doing related work and the interests of TC 36 in new fields, such as wide-screen pictures and magnetic video recording techniques, were also discussed.

The lengthy agenda made it necessary for the chairman to appoint 11 ad hoc Harrogate Working Groups[1] and organize them in several simultaneous sessions to study the many proposals which were submitted prior to and during the meeting. Written reports of each of the working group sessions were prepared daily by the secretarial staff, discussed by the members of TC 36, and the approved reports were used by the Resolutions Committee in drafting the resolutions.

Eleven American Standards and three SMPTE-sponsored new proposals were among the 40 documents offered for consideration and discussion at the meeting. The USA was successful in promoting several American proposals as the basis for future ISO Recommendations. However, it is interesting to note that the majority of the proposals include specifications taken from European, as well as American, standards. The present international standards activity in the field of motion pictures and television reflects the constantly increasing international ex-

MR ARNOLD was chairman of the Harrogate meeting of ISO/TC 36, Cinematography.

MR SCHUMACHER, staff engineer, Society of Motion Picture and Television Engineers, was secretary of the TC 36 meeting. Mr Schumacher is secretary of ASA Sectional Committee PH22 on Motion Pictures, the group that correlates the USA viewpoint for presentation to ISO Technical Committee 36.

[1]These Working Groups were: H7, Film Dimensions; H8, Screen Luminance; H9, Magnetic Sound Reproduction; H10, 16mm Image Areas; H11, Definition and Marking of Motion-Picture Safety Film; H12, Locations and Dimensions of Magnetic Sound Tracks; H13, Wide-Screen Motion Pictures; H14, Film Spools and Cores; H15, Rules Committee; H17, 35mm and 16mm Film Leaders and Trailers; H18, Picture Areas of Films for Television.

change of motion picture films and television programs.

Thirteen interim working groups[2] were constituted by ISO/TC 36 at the conclusion of the Harrogate meeting. A number of these groups were asked to continue the deliberations which had been begun at Harrogate but had not been finalized due to lack of time. Other interim working groups will consider items of new business such as technical recommendations concerning international exchange of films and co-productions and a reviving of former international standards activity leading toward a single standard for the dimension and shape of film perforations.

For those specifically interested in cinematography, a more detailed account of the 1958 international meeting on motion picture standards, as well as general papers on international standardization, will be published in the *Journal of the Society of Motion Picture and Television Engineers* at a later date.

[2]Interim Working Groups named at the meeting to carry on the committee's work until its next meeting are: Group H, Film Dimensions; Group I, Luminance of Screens; Group J, Magnetic Sound Reproduction; Group K, Definition and Marking of Motion-Picture Safety Film; Group L, Locations and Dimensions of Magnetic Sound Tracks; Group M, Wide-Screen Motion Pictures; Group N, Film Spools and Cores; Group O, Rules Committee; Group P, 35mm and 16mm Film Leaders and Trailers; Group Q, Picture Areas of Films for Television; Group R, Definition of "Filmmeter" and "Filmfoot"; Group S, 35mm Projector Sprockets.

. . . *for still photography*

by PAUL ARNOLD, D. R. WHITE, *and* J. W. McNAIR

ON JUNE 9, 1958 a second great advance was made in the progress of international standardization when Technical Committee 42 on Photography met in Harrogate, England. Working as a unit of the International Organization for Standardization (ISO), this technical committee (ISO/TC 42) convened, with 40 delegates representing eight nations which are world leaders in camera and sensitized goods manufacture.

A staggering agenda faced the committee. After a solid week of concentrated effort, 25 resolutions were adopted. These constituted international agreement on more than 20 technical matters of importance in all countries.

The groundwork for this convincing demonstration of the universality of photography had been laid three years earlier when ISO/TC 42 held its first meeting in Stockholm, Sweden. In June 1955, representatives from ten countries had gathered there and recognized the need for international standards for photographic materials and equipment. What is more important, the Stockholm meeting demonstrated the ability of photographic experts from many countries, speaking different languages, to agree unanimously on technical matters.

Following the meeting at Harrogate of the Photography Committee, ISO/TC 42, there was a week-long meeting of the international committee on Cinematography, ISO/TC 36, (see page 326). Committees ISO/TC 36 and ISO/TC 42 were two of 15 different international standards committees which held their technical meetings this year in connection with the General Assembly of the International Organization for Standardization[1].

The USA has membership in the ISO through the American Standards Association, which acts in an overall administrative capacity for both ISO/TC 36 and ISO/TC 42. The ASA is known as "secretariat" for the two committees and, as such, is responsible for administrative details of the work. This includes making arrangements for meetings, the preparation of agendas, and the preparation and circulation of reports of meetings and draft proposals to be voted upon by the member countries.

As a member country of the ISO, the USA sent the following 12 delegates to represent American photographic interests:

Paul Arnold, Assistant to the Technical Director, Ansco, *Leader*
Raymond Davis, Chief (Retired) Photographic Technology Section, National Bureau of Standards
Donald C. Holmes, Chief, Photoduplication Service, The Library of Congress
C. H. Jordan, President, Kilborn Photo Paper, Incorporated

[1]For a general report of the Harrogate meetings, see THE MAGAZINE OF STANDARDS, September 1958, page 258.

MR ARNOLD, assistant to the technical director, Ansco, and chairman of the Photographic Standards Board of the American Standards Association, was leader of the USA delegation at the Harrogate meeting of ISO Technical Committee 42, Photography. As leader of the delegation, Mr Arnold was principal spokesman for the USA.

DR WHITE, research laboratory director, E. I. du Pont de Nemours & Company, Photo Products Department, is chairman of ASA Sectional Committee PH22, Motion Pictures. He was chairman of the TC 42 meeting at Harrogate.

MR McNAIR, technical director of the American Standards Association, is secretary of the ASA Photographic Standards Board. He served as secretary of the Harrogate meeting of ISO/TC 42.

Richard N. Linkhart, Chief Supervisor, Plant Technical Department, E. I. du Pont de Nemours & Company, Photo Products Department
J. W. McNair, Technical Director, American Standards Association
Dr John G. Mulder, Director, Film Services Division, Eastman Kodak Company
J. Howard Schumacher, Staff Engineer, Society of Motion Picture and Television Engineers
John L. Tupper, Assistant Head, Physics Division, Eastman Kodak Company
J. A. Van den Broek, Senior Engineer, Argus Cameras
Dr Deane R. White, Research Laboratory Director, E. I. du Pont de Nemours & Company, Photo Products Department
A. T. Williams, Weston Electrical Instrument Corporation

Belgium was represented by one delegate, France by four, Germany by six, Japan by two, Sweden by one, the United Kingdom by 11, and the USSR by six delegates.

International agreement on technical standards for photography has made great progress since the initial meeting of ISO/TC 42 in 1955 at Stockholm. One of the greatest accomplishments of the earlier meeting, from the standpoint of future progress, was the realization by all the delegates that international unity depends on international cooperation. Divergent national practices have to be evaluated to discover the one best method—best from the international standpoint. Patriotic support of an existing practice in one country has to yield to compromises on details with other national practices. Tolerance and patience have to be practiced in order to reach an understanding on which international agreement can be based.

Very often it is found that, when people sit together to discuss a mutual problem, what appeared at the outset to be lack of *agreement* is really not that at all, but a lack of *understanding*. When technical people learn to understand one another, to overcome the barriers of language, the hindrance of different engineering traditions, the confusions resulting from a different trade idiom or national practice, they often find they are not very far from agreement after all.

In all international standardization work, as much work as possible is attempted by correspondence. During the years following the Stockholm meeting, misunderstandings and differences of opinion arose which were next to impossible to settle by letters, so the second meeting was scheduled for June of 1958. The Secretariat drafted a proposed agenda for the meeting in such a way as to provide for a discussion of all unresolved matters and, in addition, such new matters as the other member countries wished to propose for consideration. As a result of this preliminary planning, the following *ad hoc* Working Groups (temporary working groups), were organized in Harrogate, each with a specific problem to solve before the close of the week's session:

Stereo still pictures on 35mm film, Working Group H1
Lens and shutter markings, Working Group H2
Quantity packaging of sensitized photographic materials, Working Group H3
Stability of images and method for determining thiosulfate, Working Group H4
Dimensions for 35mm film magazines for still picture cameras, Working Group H5
Identification of exposed color roll films, Working Group H6
Specifications for six photographic grade chemicals, Working Group H7
Back window location for roll film cameras, Working Group H8
Sizes of amateur roll film, Working Group H9
General-purpose photoelectric exposure meters, Working Group H10
Camera accessory shoes, Working Group H11
Dimensions for small flash connections for hand-held cameras, Working Group H12
Standard values for light output of photoflash lamps, Working Group H13
Lantern slides, Working Group H14
Sensitometry, Working Group H15

In most cases these working groups managed to clear for circulation to the participating member countries draft proposals on which it had been impossible to reach agreement by correspondence.

Working Group H10 on General-Purpose Photoelectric Exposure Meters, on the other hand, reached many decisions on this difficult and important subject, but did not come to final agreement. A new Working Group was authorized to continue the work by correspondence until such time as final agreement can be reached.

The standard values for light output of photoflash lamps, considered by Working Group H13, was a new subject for international consideration. Certain fundamental agreements were reached but no firm proposal was agreed upon. It was decided to organize an Interim Working Group to continue the work until its completion or until the next meeting of ISO Technical Committee 42.

Lantern slides, Working Group H14, was also a new item for internatic al study. It covered the dimensions of 2-inch x 2-inch (5cm x 5cm) and 2¾-inch x 2¾-inch (7cm x 7cm) slides and position indicator for slides. The subject was proposed by Sweden. An Interim Working Group was set up to undertake the preparation of a proposal.

On sensitometry, Working Group H15, the USA had proposed for international consideration a standard covering a light source for the sensitometric exposure of daylight-type color film. Agreement was reached on an international draft proposal to be circulated for letter ballot by the participating countries.

Other subjects under consideration included speed and exposure index of photographic film, already covered by the approved ISO Recommendation R6, Method for Determining Photographic Speed and Exposure Index. This international method is identical in all technical respects with American Standard PH2.5-1954. A German proposal to revise ISO R6 was discussed in detail at Harrogate and it was agreed that a revision is necessary and desirable. An Interim Working Group will attempt to reach agreement on a draft revision of ISO Recommendation 6.

Other Interim Working Groups will attempt to reach agreement on draft proposals on standardization of photographic permanent record materials, diameter of front lens barrels, marking of transit packages containing photographic goods sensitive to radiation, and stand-

ardization of cut sheet and roll photographic paper in inch and metric sizes.

The United Kingdom representatives were extremely anxious that something be done to develop international recommendations for marking packages containing photographic goods sensitive to radiation since they had experienced a considerable amount of fogging of film in transit from manufacturer to purchaser due to radiation of one kind or another.

Those in favor of standardization of cut sheet and roll photographic paper believed that interchangeability between the inch and metric sizes of paper should be attempted as well as standardization of the inch and metric sizes themselves.

To summarize the accomplishments of the 1958 meetings in Harrogate: nine revised Draft ISO Proposals were ordered to letter ballot of the participating members, five proposals originated at the Stockholm meeting were completed following agreement on minor editorial changes, five new draft proposals for international agreement were ordered to letter ballot, nine new Interim Working Groups were established to undertake new projects or to continue work on existing projects, and one questionnaire was authorized to collect information on a potential new project.

The work accomplished at Harrogate represents a tremendous achievement. The spirit of cooperation, the earnest desire to seek and find the basis for agreement, the willingness to compromise and to give and take among the countries present were nothing short of amazing. All of the delegates were greatly impressed and believed that many of the agreements reached would be of far-reaching benefit to the photographic industry in the United States, both internally and as a stimulant to export business. A great deal of work remains to be done by the American Standards Association as Secretariat. The support of the American photographic industry, both technical and financial, will be needed if the USA, through its national standardization body, the American Standards Association, is to fulfill its important assignment as Secretariat of this committee and maintain the good business position which the United States has demonstrated in both national and international standards for the advancement of photography.

AMERICAN STANDARD ON PREFERRED NUMBERS

NEW EDITION NOW AVAILABLE

THE AMERICAN STANDARD on Preferred Numbers is now available in a new edition, Z17.1-1958.

Preferred numbers are a geometric series in which each number is a given percentage larger than the preceding one. These numbers are offered as a standard guide for the use of designers and production men, providing a logical series of step-ups for such significant design features as length, area, volume, weight, performance, capacity, and ratings.

The first edition of the standard, Z17.1-1936 (reaffirmed 1951) contained inch dimensions showing the application of the series. However, since the application of the numbers is very much wider than these tables indicated, it was decided at the time the standard was last reviewed for reaffirmation to restrict it to abstract numbers and remove all examples of its application.

This is in line with the position taken by United States representatives in the work of Technical Committee 19 on Preferred Numbers of the International Organization for Standardization. American Standard Z17.1-1958 is identical in technical respects with ISO Recommendations R3, Preferred Numbers—Series of Preferred Numbers and R17, Guide to the Use of Preferred Numbers and of Series of Preferred Numbers, published by the International Organization for Standardization.[1]

As explained in the Foreword of American Standard Z17.1-1958: "In the absence of any guidance as to what values should preferably be used, the sizes chosen by different designers will probably show a wide spread. . . . The adoption of a series of Preferred Numbers to be used by all designers, as the term indicates, *in preference* to other sizes, tends to unify sizes chosen by different designers and thus to create that uniformity and consequent interchangeability which often are indispensable to successful standardization work."

The term "size," it is explained, should be interpreted broadly and may refer to a dimension of length, area or volume, or to a weight, a capacity to perform, or a rating.

The newly published edition, American Standard Preferred Numbers, Z17.1-1958, differs from the 1936 edition only in the deletion of the references to inch dimensions in the text and tables. The 1958 edition, therefore, contains only the abstract numbers showing the step-ups in the different series, and leaves the application of the numbers in any specific case to the designer.

The sectional committee in charge of the standard is sponsored by the American Institute of Electrical Engineers.

Copies of Z17.1-1958 are available from the American Standards Association at $1.00 each.

[1]Available from the American Standards Association at $1.20 and $1.80, respectively.

AT the Awards Luncheon—(left to right) *E. D. Clark, chairman, Philadelphia Section, SES; H. G. Arlt, SES president; H. Thomas Hallowell, Jr, president, Standard Pressed Steel Company, and ASA president, principal speaker; W. L. Healy, chairman, Awards Committee; and Vice Admiral G. F. Hussey, Jr, USN (Ret), managing director, American Standards Association.*

STANDARDIZATION—A MUST FOR THE SPACE AGE

THE UNITED STATES will become a second rate nation unless its technical men and industrial management raise their standards to provide almost 100 percent reliability for parts used in today's complex tools and apparatus. This was emphasized at the Seventh Annual Meeting of the Standards Engineers Society, held in Philadelphia, September 22-24. Theme of the meeting was "Standardization—A Must for the Space Age."

Standards engineers from companies, associations, societies, and government organizations from all parts of the United States and from Canada attended the meeting.

The Society's membership increased 25 percent during the past year, Herbert G. Arlt, Bell Telephone Laboratories, Inc, president of the Society, reported. It now includes members in Great Britain, India, Australia, The Netherlands, and Sweden, in addition to the USA and Canada. Two new sections received charters at the meeting—Syracuse, N. Y., and San Francisco, California, making a total of 14.

Four of the Society's members were awarded Fellowships at the meeting for their outstanding service to standardization. They are: Vernon L. Cox, manager of the Laboratories Department, Switchgear and Control Division, General Electric Company, Philadelphia; Leo B. Moore, associate professor, Massachusetts Institute of Technology; Madhu S. Gokhale, coordinator, Military Drafting Standards, Radio Corporation of America, Camden, N. J.; and S. P. Kaidanovsky, consulting engineer, Lakewood, N. J.

Speaking at the awards luncheon, H. Thomas Hallowell, Jr, president, Standard Pressed Steel Company, and president of the American Standards Association, called on standards men and on industrial management to up-grade standards. Failure of individual parts in today's complex apparatus is costing the country 20 billion dollars a year, he said.

"We have become used to fixing the kiddie car, the express wagon, the radio set—but have you ever tried to fix any of your household equipment? It used to be put together with screws. Today, even if you could get the thing apart, what do the little circuits do anyway?" he asked.

To meet today's requirements for production of electronic equipment, complex household apparatus, automobiles, machine tools, as well as missiles, rockets, and space vehicles, manufacturing companies must specify exactly what they need to produce reliable equipment that will operate without breakdown and must insist that their suppliers provide the reliability they need, Mr Hallowell declared. In development of standards, the thinking of 1890 must be discarded and standards must be up-graded to call for the reliable performance needed today, he said.

The problems of materials and their reaction to conditions of outer space and nuclear radiation were emphasized by speakers at the technical sessions.

What materials must be developed to enable aircraft to withstand sonic vibration and high temperatures? Can these materials be standardized and mass manufactured? asked F. N. Hudson. Mr Hudson is chief

of the Materials and Engineering Branch, Standardization Division, Headquarters Air Research and Development Command, Andrews Air Force Base, Maryland. "We must have materials with high melting points and excellent strength but with zero density," he pointed out; "unfortunately, such elements do not exist." Therefore we must rapidly improve the metallurgical structure and properties of the materials that are available and test them until we discover or develop new and radical materials. Research indicates that the answer may lie in the area of composite materials based on cermets and ceramics, he indicated.

The extremely long life that will be expected of materials in the space age is one of the unique problems that will have to be faced, G. W. Monk told the standards engineers. Mr Monk is with the American Machine and Foundry Company, Alexandria, Va. In flights to planets or in continuous orbital paths, the structure and components must be reliable for periods of many months and years. He called attention to the fact that under long service conditions creep will become significant; structures will not have to support their own weight as they do on the earth's surface; and these structures may be extremely flimsy since there will be no weight and no wind. On the other hand, there will be no air to help damp out vibrations. Also new will be the fact that materials may be exposed to intense nuclear radiation fields, and that larger units will have nuclear plants either for auxiliary power sources or for direct propulsion. Materials will be subjected to new and drastic conditions when a missile, for example, re-enters the atmosphere at high speed. Under these conditions, standards of value for conventional applications may be entirely misleading.

The specialized requirements now needed for supersonic aircraft, missiles, and nuclear energy, for higher strength, lighter weight, and greater temperature-resistant metallic materials will be widespread throughout our total industrial world of tomorrow, said Robert L. Sproat, chief metallurgist, Standard Pressed Steel Company.

Our future progress depends upon a systematic development program which is based upon a better understanding of the physical laws of metals, he declared. Tools for this development are now available for some phenomenal advances in the future.

"It would be expected that the machine tool capacity of the aircraft industry would have to be increased approximately eight times by the change from aluminum to harder materials such as titanium, stainless, and alloy steels," he said. However, this has been largely avoided through a better design of parts which do not require much extensive testing. The functional usefulness of many standard parts has been increased. A new example is the evolution of high-strength airframe bolts.

"Missiles cannot be built in any number, without full utilization of every trick in the standardization grab-bag," said J. Loring Woodward, supervisor, Non-Metallic Engineering Unit, Materials Laboratories Section, Chrysler Corporation, Missile Division.

"Temperatures as they affect missile performance are one of the primary considerations in any discussion of problems," Mr Woodward pointed out. Space temperatures range from approximately −300F "in the shade" to +750F in the sun.

Probably the largest problem is storage, however, in Mr Woodward's opinion. A missile may have to be stored for several years. Once taken out of storage, it must function with a high degree of reliability. Even though each part is individually tested and has a reliability rating of 98 percent, the over-all reliability is exceptional if it exceeds 50 percent when you take into account the fact that there are approximately 5000 of these components in a missile, he explained.

He called for annual review and republication of basic standards such as MIL-STD-417 and MIL-STD-601. "Just as interchangeable parts are essential to the Army rifle, our standardization program is absolutely invaluable to our missile weapons system," he declared.

Complex equipment, posing complex maintenance problems, is calling for capable individuals beyond the ability of the country to provide, said R. W. White, chief of the Standardization and Engineering Service Section, Office of the Chief of Ordnance, Department of the Army. Mr White spoke during a symposium on problems in standardization created by the expansion of man's activity into space. Although mounting costs of missiles and space vehicles make it imperative that standardization be exploited to the full for cost reduction, such equipment is produced only in limited runs and standardization must be directed to components and parts, he pointed out. Rapidly changing technology leading to early obsolescence works against standardization, but modularization of electronic equipment is one example of successful standardization, providing a logical and compact arrangement of com-

VERNON COX, General Electric Company, and member of the Philadelphia Section of SES, receives certificate as Fellow of the Society from W. L. Healy, chairman of the Fellowship Awards Committee. Mr Cox is at right.

NORMAN L. MOCHEL, past-president of the American Society for Testing Materials, manager, Metallurgical Engineering, Westinghouse Electric Corporation, Philadelphia, speaking at the Standards Engineers Society's banquet, September 23, 1958.

ponents in a packaged unit to save space and make possible automatic production techniques.

The trend toward team contracts, whereby research institutes and similar organizations pool their technical resources and industrial concerns pool contracts, calls for speed in technical communication between government and industry and between industrial concerns. This has accelerated the Department of Defense project on standardization of drawings, Mr White said. He foresees more exacting and detailed requirements in specifications, more complex and precise quality control procedures, and greater reliance on contractors for control of quality.

F. J. Rasmussen, head of the Standardization Branch, Bureau of Aeronautics, also emphasized the revolutionary changes in operational and environmental requirements that have caused major changes in design and construction concepts for aircraft and guided missiles. He urged the standards engineer in industry as well as in the government to take a leading role in developing, coordinating, and using both military and industrial standards. Close cooperation between designers and standards engineers, between companies, and between industry and government is needed, he said. He urged standards engineers continuously to inject standardization into every-day design. As an example he cited the rotating anti-collision light, the red flashing light on airplanes. Early designers made these lights with special contours for each type of aircraft. Now a standard light is in use with a base-adapter so that the only part that is changed from one aircraft to another is the adapter.

In light of the urgent demands on engineering departments to meet the requirements of the space age, standardization techniques should be used to reduce waste and inefficiency, A. F. Gagne, Jr, consulting engineer, told the meeting. D. H. Colburn, IBM Corporation, described the manufacturing standards used by his company for tooling, manufacturing, and procurement. "We have three standards books almost filled with standards and I am completely convinced that we have only scratched the surface in the field of manufacturing standards," Mr Colburn said.

R. Lees, Ingersoll-Rand Company, described how tracing templates can be used to reduce drafting costs.

New developments in electronic processing equipment should be carefully watched for help in improving accuracy and to save time, said S. H. Watson, manager, Standardizing Division, Radio Corporation of America, Camden, N.J., and M. Macchia, supervisor, RCA Advanced Electronic Data Processing. The possibility of comparing drawings by electronic data processing equipment is now being discussed, Mr Watson said. He forecast the possibility of placing instructions for a new model on tape and using electronic equipment to make a part without using a drawing. In stock control and cataloging activities of a company, data processing can now give a quick check on all product activity across the entire corporation and a good picture of fast-moving items, slow-moving items, and other data helpful in a standardizing program, it was pointed out.

Although some progress has been made in recent years in development of standard drafting practices, there is still room for improvement in simplicity, uniformity, and precision, Rowland Hill, Northern Electric Company, Ltd, Montreal, Canada, declared. The ABC countries (the United States, United Kingdom, and Canada) have developed a Unified Screw Thread System and all three countries have published standards based on it, but British gages will sometimes reject threaded parts which are accepted by American gages, he pointed out. The difficulty is that we do not know how to interpret the thread limits specified in the standards or on our drawings, he explained. A tremendous challenge exists for all standards engineers to work toward better drafting standards on company, national, and international levels, in Mr Hill's opinion.

The Aircraft Industry Association is obligated to promulgate appropriate standards for the advancement of its member firms and corporations, explained Robert Franciose, General Electric Company. Its members are engaged in the business of designing, manufacturing, buying, and selling aircraft, missiles, rockets, space vehicles, accessories, and other allied products. Among the standards the Association promulgates are drafting practices. These are based on standards established

by the Military. AIA has recently assisted the Department of Defense in promulgation of a basic Military Drafting Specification DOD Project 703-27 and has made recommendations with a view to making MIL-STD 1 through MIL-STD 24 more compatible with everyday needs, he said.

A great deal of work has been accomplished in developing a unified drawing standard for use in the United States, Britain, and Canada, George M. Noble, Dominion Engineering Works, Ltd, Montreal, declared. However, some differences of practice still remain to be reconciled. "None of these represent any insuperable obstacle to a completely unified document and we may confidently look forward to an ABC Unified Drawing Standard in the near future," he said. He urged that more energetic efforts be made to resolve these differences so that the ABC countries will present a united front in the work of the International Organization for Standardization.

Describing Canadian standardization techniques, F. H. Chandler, executive assistant manager, Ontario Hydro-Electric Commission, said that Ontario is now entering a new field of standardization due to increasing use of fossil fuels and the projected use of nuclear fuels for electric power. Standardization is difficult at this time due to the rapid advances in large capacity boilers and turbo-alternators, he said. The Commission's work on material standards was established in 1952. Work has also been done on standards for rural distribution lines, sub-transmission, and high-voltage transmission lines up to and including 230 kilovolts. There can be no possibility of an unsatisfactory standard resulting from this work since all using bodies must be satisfied, Mr Chandler said.

Canadian welding codes have greatly increased the use of welding, declared R. M. Gooderham, director of the Canadian Welding Bureau. The Bureau is a division of the Canadian Standards Association. It administers the welding codes, tests operators as well as equipment, and certifies both as meeting the provisions of the welding standards. A fabricator may have his organization as a whole tested and certified as competent to undertake welded construction, Mr Gooderham explained. The Bureau also assists fabricators to meet the code requirements by providing engineering and instructional services.

In air defense, a degree of standardization must exist between the United States and Canada, declared M. A. Phipps, chief of design services, Engineering, Orenda Engines, Ltd. Standardization on as many items as possible will materially aid procurement, inspection, and quality control, he pointed out. By participating in committees of the Society of Automotive Engineers, the U.S. Department of Defense, and others, the Canadian automotive industry and Air Force can present their viewpoints and also are kept aware of what is going on in the USA, he explained. Orenda's standards activity aims at conserving engineering effort, time, and money. "When it comes to the space age, conserving time and money becomes even more important," Mr Phipps declared. "The cost of space flight is going to be colossal. Standardization is an area in which vast sums of money can be saved."

Standards engineering calls for professional preparation—education, training, or both, Dr John Gaillard, management consultant, told the Society's members. He pointed to three distinct phases.

First, he said, many top executives still have to be educated in the value of standards engineering as a function of industrial management, and in the necessity of lending their full support to the standards engineer's work.

Second, the standards engineer should be educated in the basic philosophy of standardization, of which standards engineering is an application to industrial activities. He should also be educated and trained in setting up the necessary administrative machinery and procedure in an industrial enterprise and in the art of writing specifications.

Third, for maximum results, the rank and file should be educated in the essential purpose of standards engineering, so as to promote the spirit of cooperation in the program.

In the course of time, standards engineering may be expected to be taught as a regular subject in college courses, Dr Gaillard declared. For the present, however, he said, industry must rely on private courses, seminars, and consultation.

College courses on standards need textbook material, said Leo B. Moore, associate professor of industrial management, Massachusetts Institute of Technology. Because of lack of such materials, at first, in his course at MIT, he taught what companies, associations, and societies were doing; then he began asking questions about why they were doing it; and after that he began to evaluate the standards activity. Now he is trying to develop an underlying philosophy of standardization and to determine sound definitions and techniques in the field.

The Standards Engineers Society is undertaking a research and education program and has organized a committee for this purpose, M. S. Gokhale, chairman of the committee, reported.

"Standardization as an independent technique is rapidly coming into its own," he said. "With many new

SPEAKERS on Canadian standardization techniques — (left to right) *R. M. Gooderham; S. H. Chandler; M. A. Phipps; G. Wells, Canadian General Electric Company, moderator.*

people getting into standardization work, a need for authentic guidance for this purpose is keenly felt."

The program, as approved by the SES Board of Directors, includes the following:

1. Preparation of a handbook on various standardization subjects, for daily guidance and other reference purposes by the standards engineers, as follows:
   (a) Various chapters of this handbook will be written by the authorities on each subject.
   (b) Editorial responsibility will be with the SES Research and Education Committee.
   (c) Production and printing will be contracted with a reliable publisher of technical handbooks.
2. Establishment of a roster of available speakers and lecturers on standardization topics to senior college students in technical schools.
3. Creation of a scholarship for a course in standardization through an accredited fellowship or a foundation.

Mr Gokhale reported that he has already talked with possible publishers of the proposed handbook.

An entire afternoon during the SES meeting was devoted to concurrent workshop sessions. Subjects covered were: (1) Is standardization of shop practices necessary? (2) Simplified drafting; (3) Problems in screw thread gaging.

SPEAKERS on materials for the space age (left to right) *R. L. Sproat; C. W. Straitor, Detroit Edison Company, Moderator; J. L. Woodward.*

The papers presented at the meeting will be published in full in the Proceedings of the meeting to be issued by the Standards Engineers Society.

The 1959 meeting of the Society will be held in Boston, Massachusetts.

STANDARDS ENGINEERS SOCIETY | FELLOWSHIP AWARDS

VERNON L. COX

Citation: Vernon L. Cox, manager of the Laboratories Department of the Switchgear and Control Division, General Electric Company, Philadelphia, has devoted himself to standards and standardization throughout his career, serving on many important committees and task groups.

Mr. Cox is Technical Advisor on switchgear, fuses, and relays to the U. S. National Committee of the International Electrotechnical Commission. He is chairman of ASA Sectional Committee C37 on Power Switchgear and is a member of the American Institute of Electrical Engineers' Switchgear Committee, and the National Electrical Manufacturers Association's Switchgear Section Technical Advisory Committee. He is also a member of the EEI-AEIC-NEMA Joint Committee on Power Circuit Breakers. Mr. Cox is a Fellow of the American Institute of Electrical Engineers.

MADHU S. GOKHALE

Citation: Madhu S. Gokhale, Past President of the Standards Engineers Society, has worked on standards with the Radio Corporation of America since 1938. He was Secretary of the RCA Standards Policy Committee. Mr. Gokhale organized the RCA Drafting and Shop Practices Committees and has been chairman of these committees since 1940. In addition to his other job, Mr. Gokhale is Drafting Coordinator and Editor of the RCA Military Drafting Manual. In development of national standards, he is a member of a number of subcommittees of ASA Sectional Committee Y14 on Standards for Drafting Practices.

As an original charter member and later as President of SES, Mr. Gokhale did much to increase the growth of the Society. His papers on standardization and its effects on design and production have brought him recognition abroad as well as in this country. During his recent vacation in Europe he gave a talk on design and standards and had personal conversations with a number of SES members in England and on the continent.

Mr. Gokhale is Chairman of the recently-organized SES Committee on Research and Education.

S. P. KAIDANOVSKY

Citation: For many years S. P. Kaidanovsky took a leading part in development of specifications for the Federal Government, first for the War Production Board and later for the Federal Specifications Board. He served as Chairman of the Federal Interdepartmental Standards Council, one of the early attempts of the Federal Government to coordinate the standards of the various Government departments. For a number of years Mr. Kaidanovsky was editor of the magazine *Standards World*. Since his retirement from Government service, Mr. Kaidanovsky has continued his interest in standards and has gained an increasing reputation as a writer and teacher. His most recent series of articles in *Materials in Design Engineering* magazine offers an unusual compilation of information on materials standards and where to find them.

LEO B. MOORE

Citation: Leo B. Moore, Associate Professor of Industrial Management at Massachusetts Institute of Technology, has done more than any other single person to interest young engineers in the problems of standards. His course in industrial standardization at M.I.T. is a full-term course in which his students are taught the philosophy and application of industrial standards and encouraged to learn about and analyze the experience of others.

His column, Standards Outlook, in the MAGAZINE OF STANDARDS brought recognition and comments from all over the world. Mr. Moore is author of the section on industrial standardization in the *Handbook of Industrial Management and Engineering*, acts as a standards consultant, and has participated in many work simplification conferences.

This year he received the award of the Standards Engineers Society—American Society for Testing Materials for outstanding contributions to the literature of standards.

FROM OTHER COUNTRIES

German Standards Translated Into English

The following German standards have been translated into English by the German Standards Association (Deutscher Normenausschuss). Copies of the translated documents may be ordered through the American Standards Association.

DIN 68 Countersunk Screws, Slotted Whitworth Thread

DIN 124 I Round Head Rivets for Steel Structures 10 to 36 mm Diameter

DIN 126 (Unmachined) Washers for Hexagonal Bolts and Nuts

DIN 431 Hexagonal Pipe Nuts, Whitworth Pipe Thread

DIN 533 I (Unmachined) Castle Nuts, Metric Threads M 6 to M 33
II (Unmachined) Castle Nuts, Whitworth Thread

DIN 552 Threaded Pins with Tapering End, Whitworth Thread

DIN 555
I (Unmachined) Hexagonal Nuts M 5 to M 100 Finish g
II (Unmachined) Hexagonal Nuts, Whitworth Thread

DIN 564 Hexagonal Bolts with Cone End Small Hexagonal Head and Thread Extending up to Head, Metric Thread, Metric Fine Thread

DIN 601
I (Unmachined) Hexagonal Bolts without Nut — With Hexagonal Nut, Metric Thread
II (Unmachined) Hexagonal Bolts without Nut — With Hexagonal Nut, Whitworth Thread

DIN 660 Round Head Rivet, 1 to 9 mm Diameter

DIN 1109 Sky Lights with Flat Covering Frame, Cast Iron

DIN 1110 Sky Lights with Flat Covering Frame, Soft Steel Galvanized

DIN 1319 Fundamental Principles of Measurement Technique

DIN 1564 Steel Fittings for Rail Vehicles, Sockets, Reducing Sockets

DIN 1781 Copper Alloy Strip for Flat Springs, Test Procedure

DIN 1910
I Welding, Welding Processes, General Classification
II Welding, Welding Processes for Metals

DIN 1961 German Contract Procedure in the Building Industry. Part B: General Conditions of Contract for the Execution of Building Work

DIN 1986 I Drainage Systems for Premises, Specification Code for their Installation and Operation

DIN 1988 Water Supply Installations. Water Supply Installations on Premises. Specifications for Installation and Operation

DIN 4078 Plywood. Veneers, Jointer Plates. Dimensions

DIN 4103 Lightly Constructed Partitions. Rules for Execution

DIN 4470 Bath Tubs of Grey Cast Iron and Sheet Steel. Survey

DIN 4473 Bath Tubs. Detachable Tubs 1600 (economy tub). Grey Cast Iron

DIN 4890
I Inches — Millimeters. Standard Temperature (Reference Temperature) 20°C
II Conversion Tables. Inches—Millimeters from 1/64″ to 12″. Standard Temperature (Reference Temperature) 20° C
III Conversion Tables. Inches—Millimeters from 12″ to 36″. Standard Temperature (Reference Temperature) 20°C
IV Conversion Tables. Inches—Millimeters from 36″ to 60″. Standard Temperature (Reference Temperature) 20°C

DIN 4892
I Conversion Tables. Inches—Millimeters from 1″ to 100″ and 0.001″ to 0.5″. Standard Temperature (Reference Temperature) 20°C
II Conversion Tables. Inches—Millimeters from 1″ to 100″ and 0.5″ to 1″. Standard Temperature (Reference Temperature) 20°C
III Inches—Millimeters. From 1 Micro-Inch to 1000 Micro-Inch (in.) Conversion Table

DIN 4893 Conversion Tables. Millimeters—Inches. 1 mm to 10000 mm. Standard Temperature (Reference Temperature) 20°C

DIN 7603 Vehicle Construction. Light Pipe Joints. Gaskets

DIN 7985 Fillister Head Screw with Phillips Drive. Metric Thread

DIN 18305 German Contract Procedure in the Building Industry. Part C: General Technical Prescriptions. Dewatering

DIN 19800
I Asbestos — Cement Pressure Pipes. Dimensions
II Asbestos — Cement Pressure Pipes. Technical Specifications

DIN 50104 Internal Pressure Test for Hollow Bodies of Various Shapes, up to a Specified Internal Pressure. Water Pressure Test

DIN 50113 Testing of Metallic Materials. Rotating Bending Test

DIN 50119 Testing of Materials. Creep Test. Definitions, Symbols, Procedure, Evaluation

DIN 50121 Testing of Steel. Bend Tests on Fusion Welded Butt Joints

DIN 50122 Testing of Steel. Notch Impact Bending Test on Fuse Welded Butt Joints

DIN 50123 Testing of Light Metals. Tensile Test on Fusion Welded Joints

DIN 50124 Testing of Light Metals. Shear Tension Test on Spot Welded Joints

DIN 50126 Testing of Steel. Tensile Test on Fillet Welds

DIN 50131 Determination of Shrinkage

DIN 50135 Drift Test on Pipes

DIN 50136 Transverse Folding Test on Pipes

DIN 50148 Testing of Non-Ferrous Metals. Tensile Test Specimen for Pressure Die Castings

DIN 50149 Testing of Malleable Iron. Tensile Test

DIN 50332 (Tentative Standard) Material Testing. Blasting (Abrasive Jet) Wear Testing

"THE PRIMARY PURPOSE OF A STANDARD IS TO ELIMINATE CONFUSION WHICH WOULD OTHERWISE ARISE BETWEEN THE MANUFACTURER AND CONSUMER. IT MATTERS NOT WHETHER THE STANDARD COVERS SIZE, OPERATION, OR CHARACTERISTICS."

ECONOMIZE AND MAKE FRIENDS BY USING THE NEW AMERICAN STANDARD FOR SPECIALTY TRANSFORMERS

by C. A. PARRIS

MR PARRIS, secretary, Specialty Transformer Section, National Electrical Manufacturers Association, is secretary of Sectional Committee C89, Specialty Transformers.

ECONOMY should be of major concern to all. It is a recognized virtue, although sometimes sincere efforts to economize may be looked upon with jaundiced eyes. Nevertheless, economy can be practiced without the necessity of swinging a meat cleaver or acting without consideration for the wishes and rights of others.

A fine example of an economy measure benefiting all interested parties is the recently approved American Standard Requirements and Terminology for Specialty Transformers, C89.1-1957.[1] By the development and approval of this standard through voluntary collective efforts, another valuable guidepost has been established for an important segment of the electrical industry.

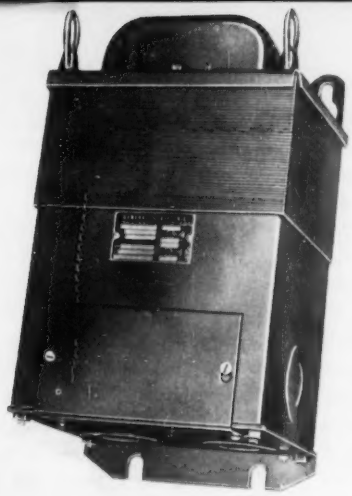
The voluntary development and use of standards which enhance the well-being of all concerned parties not only is lawful, but also is recognized as essential in a complex economy. Various branches and agencies of the Federal Government provide valuable assistance in standards endeavors and frequently take an active role in the work of the American Standards Association. By this procedure it is obvious to officials of the Government that acceptable standards can be developed outside the perimeter of public regulatory bodies.

Through the development of standards which are generally accepted, misunderstandings are significantly reduced and economies tend to flow all along the line.

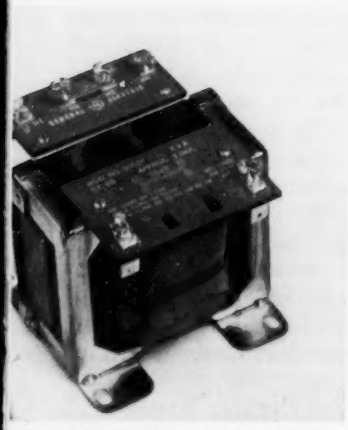
Within the American Standards Association, the parties having an interest in an area covered by a standard are classified as Producers, Consumers, or General Interest. These groups were represented in the work that went into development of the recently published American Standard C89.1-1957. In any committee's

[1]American Standard Requirements and Terminology for Specialty Transformers, C89.1-1957, sponsored by the National Electrical Manufacturers Association, has been published by the American Standards Association. Copies are available at $3.00 each.

SOME OF THE SPECIALTY TRANSFORMERS COVERED BY AMERICAN STANDARD C89.1-1957.

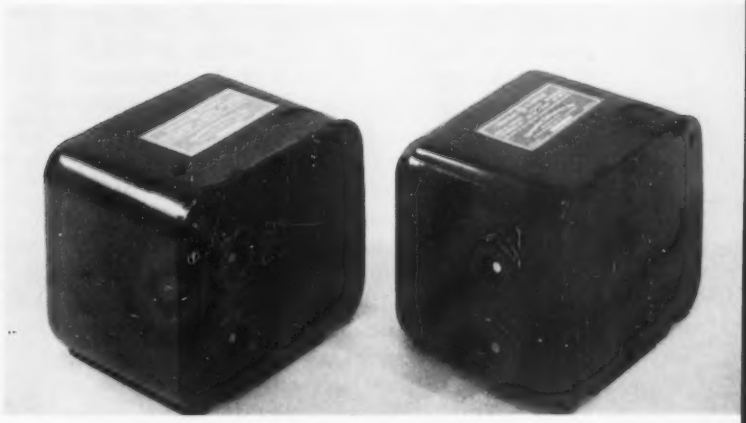


GENERAL purpose transformer. Class B insulation.



A NEW machine tool transformer.

REPLACEMENT type domestic oil burner ignition transformers.



Photos—General Electric

work on an American Standard certain advantages resulting from the development of that standard may be expected. In general, these advantages, all of which have some bearing on economies to be expected from development and use of the standards, are:

1. Normally, the producer, by using a nationally recognized standard, can expect to achieve:
   (a) Wider and more receptive markets.
   (b) An increase in the lot size resulting in more economic production.
   (c) A reduction in his inventory of units not conforming to the standard, once the standard has gained wide user acceptance.
   (d) More uniform quality of product.
   (e) An accurate minimum guide for his designer, purchasing agent, quality control department, and salesman.

2. The consumer and the installer can expect to obtain the following when they buy in accordance with a generally recognized standard:
   (a) A lower cost for comparable quality in a more competitive market.
   (b) An accurate and easy-to-follow yardstick of the product covered.
   (c) Interchangeable products from various manufacturers.
   (d) An increase in their sources of supply.
   (e) A more reliable product.

3. The persons constituting the General Interest group in the ASA—independent testing laboratories, commercial laboratories, technical societies, etc—can expect that the following benefits will accrue as a result of their participation in the preparation of a standard:
   (a) The welfare of the general public will be enhanced.
   (b) Reasonable safety will be provided when the product is installed and used as intended.
   (c) The provisions of the standard will cover minimum values, thereby avoiding exclusion of generally acceptable products from the market place.
   (d) There will be interchangeable mounting and operating characteristics of the products conforming to the provisions of the standard.
   (e) The operation of the product will be satisfactory.

Although it may be too much to expect that every one of these benefits can be derived from every American Standard, it can easily be shown that a number of them do apply in the case of American Standard C89.1-1957. Take Service Conditions, for example. This section of C89.1-1957 defines the service conditions for which the transformer is designed, including ambient temperature, and factors which tend to affect the construction or protective features of the device. Also specified are the standard frequency and the effect of altitude on temperature rise. As a result, when the producer manufactures a specialty transformer to meet the requirements of American Standard C89.1-1957, he has a clear understanding of the conditions which his product must meet after it leaves his warehouse. Accordingly, he is guided in the design, quality control program, and

the estimation of the available market for this particular transformer.

The consumer, on the other hand, has a guide by which he can evaluate the environment where the transformer may be used. Also, he can expect the product covered by the standard to be generally available, thereby giving him a number of sources of supply on a competitive basis.

Those who constitute the General Interest group played an active role before and during the preparation of the standard in developing an understanding and evaluation of the factors which determine normal and abnormal operation of the specialty transformers covered, as a basis for the standard specifications.

The section of American Standard C89.1-1957 on Tests covers the various types of tests to be made at the factory. The various tests required are a guide to the producer in predetermining the required performance of the transformer. This section of the standard also specifies the test equipment necessary to determine compliance.

When the consumer follows the standard in procuring his specialty transformer, he is assured that these tests have been made and that they are equally as important as the specifications for size, shape, or other characteristics of the transformer.

As for the General Interest group, it had its role in preparation of the test section in determining that the tests are both reasonable and adequate. The participation of this group of representatives also serves the general public and contributes to the general welfare. For example, the values of the audible sound levels in this section tend to protect the interest of non-consumers who might otherwise be adversely affected if the noise level of the transformer had been set at a higher value.

The preparation of standards is one area in which all concerned segments of the industry can complement the wishes and needs of the others. The economies stand out, whether measured in safety, absence of frustration and the resulting loss in time, increase in the number of markets or vendors, or in money saved directly through economies in manufacturing, quality control, and investment in inventory. It matters not whether the product is a complex machine or whether it is toothpicks, the same general factors are at work.

Frequently, it appears that initial actions on standards originate with the manufacturing segment of the industry, which normally has a trade association. In most instances, however, the representatives of manufacturers are motivated by needs, expressed, implied, or anticipated by users or by other segments of the industry. It is not unusual for the scale of "value received" to tip in favor of some segment other than the one initiating a standards activity.

In the case of the specialty transformer, economics dictates its use because it makes possible the transmission of higher or lower electrical voltages to or near the point where they will be utilized, thereby minimizing the energy loss in transmission. The specialty transformer normally converts the voltage to that desired at the point of utilization. It is as common as the advertising sign, motor, or the chime or oil burner circuits in a house.

Because the specialty transformer is so widely used, it is not generally viewed as a complicated device. Accordingly, there may be a tendency for manufacturers to enter this field before realizing that, without inherent quality built into the product, the complaints—from harried users of electrical energy in many small organizations to industrial executives of large companies—become nightmarish throughout the length of the distribution channel, as well as to the manufacturer.

To circumvent the economic losses and inconveniences which would result from significant failures of specialty transformers, the manufacturers have developed industry standards covering electrical and mechanical characteristics. These have been developed through the framework of their association, the National Electrical Manufacturers Association (NEMA). Those standards have been generally recognized and used, even though members and non-members of that association are free either to accept or reject them.

Within the framework of NEMA, neither non-member companies nor consumers have a vote in the preparation of NEMA standards. (However, the association does participate in preparation of joint standards in which non-members also take part.) It was felt that if all interested parties were to have an equal voice in these industry standards, this result could best be achieved through the framework of the American Standards Association. To meet this objective, as far as specialty transformers are concerned, ASA authorized the C89 project and organized the Sectional Committee on Specialty Transformers to handle the technical work of the project. Sponsor for Sectional Committee C89 is the National Electrical Manufacturers Association.

A proposal based upon the NEMA Standards Publication for Specialty Transformers was presented to Sectional Committee C89, which made and evaluated suggestions for changes. Unanimous agreement was reached and the proposal of the sectional committee, along with a roster of its membership, was presented to ASA's Electrical Standards Board. That Board concurred that the ASA Sectional Committee Method had been followed, and in the judgment of its members, the participation had been sufficient to warrant the conclusion that there will be general acceptance of the American Standard Requirements and Terminology for Specialty Transformers, C89.1-1957. (The American Standard Safety Standards for Specialty Transformers, C33.4-1956, covers the safety provisions of specialty transformers.)

What the publication of the new American Standard for specialty transformers will mean to the individual manufacturer, merchant, testing agency, and consumer will depend upon the frequency with which it is used.

All who use the standard can expect to promote economy in every area and make friends in the process.

NEW BOOKS

1957 ASTM PROCEEDINGS. Volume 57. 1430 *pp. American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa.* $12.00. These reports and papers record the Society's technical accomplishments of the past year together with discussions offered to the Society and accepted for the *Proceedings*. The volume includes the Summary of Proceedings of the ASTM 60th Annual Meeting and the Summary of Proceedings of the Philadelphia Spring Meeting. The annual president's address stresses the need for better communication and discusses the Society's cooperative efforts with Government agencies and other societies. The annual report of the Board of Directors is dedicated to administrative, technical, and financial matters, including information on membership gains, publications, honors, and awards. In addition to the papers and reports embodied in the *Proceedings*, all symposia and other special sessions published separately, as well as papers published in the *ASTM Bulletin* are listed.

MODERN SAFETY PRACTICES. By Russell DeReamer. 1958. 357 *pp. John Wiley & Sons, Inc.* $7.00.

REVIEW BY HENRY G. LAMB, SAFETY ENGINEER, AMERICAN STANDARDS ASSOCIATION. A practical guide to the latest methods of safety organization and administration, this book has the purpose of motivating managers and supervisors to take a more active role in accident prevention. The author believes in the fundamental philosophy that safety and efficiency in production go hand in hand. Through properly directed safety effort, supervisors can improve their managerial skills and strengthen their roles as leaders, the author believes.

The book is designed to be a practical guide to supervisors and safety engineers. It can also be a useful text for college-level students, especially those in schools of Business Administration, Industrial Management, and Engineering.

Throughout the text, frequent reference has been made to American Safety Standards both in connection with physical environment and also in relation to accident investigation, cause analyses, and in measuring safety performance. Particular reference is made to the American Standard Method of Recording and Measuring Work Injury Experience, Z16.1-1954, including a brief statement concerning the development of this standard and suggestions for its use.

INTERNATIONAL ELECTROTECHNICAL VOCABULARY, GROUP 35; ELECTROMECHANICAL APPLICATIONS. *Second edition.* 1958. *International Electrotechnical Commission, Geneva, Switzerland. Copies available from ASA.* $2.40. Contains some 90 terms and definitions in French and English, together with the equivalent terms in German, Spanish, Italian, Dutch, Polish, and Swedish. The terms and definitions are divided into general terms, machines and apparatus for lifting, handling or conveying, miscellaneous applications, domestic applications, automobile applications, agricultural applications, signalling devices.

MALLEABLE CAST IRON PIPE FITTINGS SCREWED IN ACCORDANCE WITH ISO RECOMMENDATION R 7. *ISO Recommendation R 49. July 1957. First edition. International Organization for Standardization, Geneva, Switzerland. Copies available from ASA.* $4.80. Covers 638 malleable cast iron pipe fittings which are considered necessary for general use and which are being mass produced. It defines the types of fittings covered and specifies the dimensions which are necessary for interchangeability (center-to-center, face-to-face, and center-to-face dimensions) as well as their tolerances.

news briefs

• Axel G. Jensen, director of visual and acoustics research at Bell Telephone Laboratories, has been made a Knight of the Order of Dannebrog by King Frederick IX of Denmark.

The award was conferred on Mr Jensen in recognition of his work as a scientist and as an expression of appreciation for his assistance to Danish scientists and engineers who have visited the United States.

Mr Jensen was born in Copenhagen, Denmark, and was graduated from the Royal Technical College there with a degree in electrical engineering. He came to the United States in 1921 for post-graduate work at Columbia University, and has been with Bell Telephone Laboratories and its predecessor organization since 1922.

Mr Jensen is a member of the Board of Directors of the American Standards Association. He was THE MAGAZINE OF STANDARDS' Personality of the Month in the June 1958 issue.

• "Builders' problems with plumbing codes would be virtually nonexistent if plumbing departments were guided by the plumbing standards recommended by the National Plumbing Code, [American Standard] ASA A40.8," said S. Vincent T. Manas recently. Mr Manas, who is representative of The American Society of Mechanical Engineers on a new plumbing advisory committee functioning under the auspices of the U.S. Public Health Service, made this statement in an article "Antiquated Local Codes Are Major Plumbing Problem" in the National Association of Home Builders' *Journal of Homebuilding*.

"It is regrettable that due to indifference on the part of home builders, difficulty is still being encountered in getting local governments to modify their plumbing codes," Mr Manas said. However, he reported, 18 states thus far have modeled their state-wide code in conformity with the American Standard National Plumbing Code and more than 1,000 municipalities have done likewise.

The new plumbing advisory committee of which Mr Manas is a member will restudy American Standard A40.8-1955.

• Gaillard Seminar, January 1959

Dr John Gaillard, consultant on industrial standardization, will hold his next five-day seminar on this subject from January 26 through 30, 1959, in the Engineering Societies Building, New York City. The major purpose of his seminars is to assist company managements in the organization of their standardization work and to train the necessary staff.

For details and registration, write to Dr John Gaillard at his new address: 135 Old Palisade Road, Fort Lee, New Jersey.

(*Continued*)

news briefs.....

(*Continued*)

• The British Standards Institution has announced election of R. E. Huffam, United Kingdom Coordinating Director of Unilever Ltd, as president. Mr Huffam has been chairman of BSI's Finance Committee since 1952, and was recently also elected chairman of BSI's General Council. He succeeds Sir Herbert Manzoni in both offices.

Mr Huffam was chairman of Lever Bros at Port Sunlight between 1930 and 1938. In 1941 he was appointed a director of Unilever where he now holds his present position.

The two immediate past-presidents of BSI, Sir Herbert Manzoni and Sir Roger Duncalfe, were elected Deputy-Presidents, and John Ryan, vice-chairman of the Metal Box Co, Ltd, was re-elected Deputy-President.

BSI's annual report for 1957-1958 shows an increase in sales of standards to a record figure of more than a million, as well as a rise in the number of standards under which certification mark licenses were granted. Certification marking involves testing. To help meet the increase in this work, BSI is setting up a new testing center at Hemel Hempstead. Some 2,800 committees held no less than 4,320 meetings during the year, it was reported.

• Paul Diserens, retired director of research and engineering construction for the Worthington Corporation, died October 7 after a long illness. Mr Diserens was 76 years of age.

Mr Diserens had taken an active interest in standards, and served as Technical Advisor to the United States National Committee of the International Electrotechnical Commission on IEC Technical Committee 19, Internal Combustion Engines, from 1947 to the time of his death. He became an alternate member of the U. S. National Committee at the time of its organization in 1931, and a full member representing the American Society of Mechanical Engineers in 1936.

• Howard Coonley has been awarded Honorary Membership by The American Society of Mechanical Engineers. This is the highest award bestowed by the Society. Honorary Membership is conferred for "effective and faithful service rendered to the Society, to the engineering profession or to the public."

Mr Coonley is cited as a pioneer in the development, promulgation, and acceptance of engineering and industrial standards. He has served as president of the American Standards Association, of the National Association of Manufacturers, as chairman of ASME's Board on Codes and Standards, and as the first president of the International Organization for Standards.

In 1944-45, Mr Coonley was chief advisor to the Chinese War Production Board, for which he was awarded the National Government of China's Medal of Victory. He also holds the U.S. Medal of Freedom. The Howard Coonley Medal of the American Standards Association is named in his honor.

• Following meetings in London in July between American physicians and manufacturers of anesthesia equipment and British doctors and manufacturers, meetings in New York are being scheduled for early in December. Purpose of the meetings is to coordinate the development of standards for anesthesia equipment between the two countries to assure interchangeability.

American delegates to the London meetings were all members of ASA Sectional Committee Z79. During the past two and one-half years this committee has been attempting to reach minimal standards for certain pieces of anesthetic apparatus.

A committee of the British Standards Institution has been working for a number of years on similar problems. "As there are good reasons for attempting to reach interchangeability between the commonly used pieces of anesthetic apparatus, we felt it was well worth while to arrange these meetings to discuss mutual problems and, perhaps, find some solution," according to Hamilton S. Davis, M.D., chairman of Committee Z79, and leader of the delegation to London.

"The aims are to establish, insofar as possible, a common terminology, a common unit of measure, and interchangeable connecting pieces. This is not an attempt to force British ideas on American manufacturers, or vice versa. Professional anesthesiologists, for some years, have desired to interchange the better pieces of equipment from the two countries so that makeshift connections, which are both inefficient and unsafe, can be dispensed with."

Dr Davis is associate professor of anesthesiology at the Western Reserve University School of Medicine, Cleveland, Ohio.

A draft on endotracheal tubes was approved by both USA and British representatives at the London meetings. Drafts approved as the result of the meetings will be referred to British and American committees as recommendations for use in developing comparable British and American standards.

Satisfactory progress has also been made in discussions on endotracheal connectors, resuscitation equipment, and breathing bags and anesthetic airways.

The agenda for the December meetings calls for further discussions on endotracheal catheters and anesthesia connecting pieces, in addition to other problems.

• In 1932, Charles le Maistre, then director of the British Standards Institution, visited New Zealand. As a result of his visit, the New Zealand Standards Institute was organized, and the first New Zealand standard issued in 1933. This year, the New Zealand Standards Institute (reorganized under government auspices in 1936) is celebrating its Twenty-fifth Anniversary.

Even before organization of the Institute there had been work on standards. In 1920, the British Engineering Standards Association (later the British Standards Institution) appointed a New Zealand committee to review and comment on draft British Standards. But active interest in standards was aroused as a result

of the Hawke's Bay earthquake in 1931, which caused widespread destruction and the loss of 248 lives. It was recognized that "The most effective safeguard that could be taken to prevent, or to reduce the hazards of, a similar disaster in the future would be to establish more adequate standards for building design and construction." A Model Building Bylaw was issued in 1935.

The New Zealand Standards Institute reports the following achievements of the quarter of a century:

153	committees in existence
2,420	standards considered by committees
1,327	New Zealand standard specifications issued
381	Standard Mark licenses in existence
72,180	specifications received from overseas standards organizations
76,014	publications comprising standards and related reports accumulated in the library

• Following a six-weeks "standards-promoting" tour of the British West Indies, Gordon Weston, technical director of the British Standards Institution, is recommending to the Government of the West Indian Federation that a standards organization be established. Mr Weston visited Trinidad, Jamaica, Barbados, Grenada, capital of the Windward Islands, and Antigua, capital of the Leewards, as well as British Guiana.

Mr Weston discussed standards for exportable raw materials and primary crops such as cocoa, cotton, sugar, rice and copra; for secondary industries such as canned fruits, cosmetics, pharmaceutical products, animal feeding stuffs, and textiles; and for capital goods.

"On this last subject Mr Weston formed one very clear impression which promises considerable benefits to British industry as a whole," reports the BSI News. "This was the general desire to look towards the United Kingdom for advice and technical guidance in meeting the inevitable problems of a developing economy. In 'brass tacks' terms this means, in Mr Weston's opinion, that British technical practices — and hence British Standards and products conforming to them—will continue to find an important place in the West Indian markets and will help to influence their developing industries."

• Tooth depths for diagonal knurls have been added in the revision of American Standard B5.30, Knurling, recently approved by the American Standards Association and published by The American Society of Mechanical Engineers. In addition, editorial changes have been made in the revision for the sake of greater clarity.

The previous version of American Standard B5.30 was published in 1953. Joint sponsors of the project are the American Society of Tool Engineers, the Metal Cutting Tool Institute, the National Machine Tool Builders Association, the Society of Automotive Engineers, and ASME.

The standard covers knurling tools with standardized diametral pitches. It includes dimensional relations with stock in the production of straight, diagonal and diamond knurling on cylindrical surfaces which have teeth of uniform pitch parallel to the axis of the cylinder or at a helix angle not exceeding 45 degrees with the axis of work.

The tools and applications covered in the standard are applicable to both general purpose and precision knurling. An advantage of the standardized method is the provision by which good tracking is obtained by tools designed on the basis of diametral pitch instead of TPI (teeth per inch) when used with recommended work blank diameters that are multiples of 1/64 or 1/32 inch, depending on the pitch selected. (Tracking is defined as the ability of teeth to mesh as the tool penetrates the work blank in successive revolutions).

The purpose of the standardized method is to improve the appearance of knurling, to make knurls more uniform, to eliminate costly trial and error methods, to reduce the failure of knurling tools and the amount of defective work, and to decrease the number of tools required.

American Standard B5.30-1958, Knurling, is available at $1.50 per copy.

• Overheard during the meeting of ISO/TC 1, Screw Threads, at Harrogate, England: "We French and Indians must stick together to defend the metric system. If necessary, we shall fight for it inch by inch."

• Two useful aids for the installation and maintenance of dry-type and oil-immersed transformers have just been published by the American Standards Association.

They are (1) Guide for Installation and Maintenance of Dry-Type Transformers, C57.94, and (2) Guide for Installation and Maintenance of Oil-Immersed Transformers, C57.93.

The guide for dry-type transformers covers general recommendations for the operation and maintenance of distribution and power transformers in ratings above 50 kilovolt-amperes and above 600 volts, both for indoor ventilated types, cooled by natural draft or forced draft, as well as for sealed types.

The installation and maintenance guide for oil-immersed transformers is an editorial modification of the NEMA Guide for Instructions for the Care and Maintenance of Oil-Immersed Transformers, which was written for the use of electrical engineers, superintendents of distribution, line foremen, electricians, operators, students, and others responsible for the installation and maintenance of transformers.

The following three types of oil-immersed transformers are covered by the guide: (1) conventional pole-type distribution transformers, 3 to 167 kilovolt-amperes, inclusive, 125 kilovolts basic impulse insulation level and below, (2) protected pole-type distribution transformers, 3 to 167 kilovolt-amperes, inclusive, 125 kilovolts basic impulse insulation level and below, (3) station-type distribution and power transformers, 168 kilovolt-amperes and larger or 150 kilovolts basic impulse insulation level and higher.

These guides are appendices (C57.93 and C57.94) to American Standard Requirements, Terminology, and Test Code for Distribution, Power, and Regulating Transformers, and Reactors other than Current - Limiting Reactors, C57.12-1956. However, the guides are not to be considered a part of the American Standard.

Copies of the guide for dry-type transformers at 50 cents each and of the guide for oil-immersed transformers at 75 cents each can be obtained from the American Standards Association.

This is the fifteenth installment in the current series of rulings as to whether unusual industrial injury cases are to be counted as "work injuries" under the provisions of American Standard Method of Recording and Measuring Work-Injury Experience, Z16.1-1954. The numbers in parentheses refer to those paragraphs in the standard to which the cases most closely apply. These cases are issued periodically by the Z16 Committee on Interpretations.

Case numbers in the current series start with 400. Cases 400-500 have been reprinted with an index prepared by the National Safety Council. To make it easy to locate all cases applying to any section of the standard, the index is arranged both numerically by paragraph number of the standard and numerically by case number. Each index reference includes a brief description of the case. Reprints are 75 cents per copy, available from ASA.

Sectional Committee Z16 is sponsored by the National Safety Council and the Accident Prevention Department of the Association of Casualty and Surety Companies.

Are These Cases Work Injuries?

CASE 579 (5.2)

An airline ticket agent picked up a heavy piece of luggage to move it from the counter scale (approximately 13½ inches above the floor) a distance of four feet to a conveyor belt (about 16½ inches above the floor). Fifteen minutes later she reported to her supervisor that she now felt sharp pains in her back (sacro-iliac area) and had difficulty in walking.

At 1 P.M. (approximately 3 hours after the incident) the same day she reported to the station medical office. She gave a history of having injured her back previously in a fall from a horse (off duty) and of recurring pains there since that time. She was given aspirin and a heat lamp treatment by the nurse. She returned to work and completed her shift. Later that day she visited a doctor who advised rest, and she stayed home from work for three days. The company physician who examined the ticket agent when she returned to work was of the opinion that lifting the bag could have caused aggravation of the old injury.

Decision: The committee decided that this lost time should be included in the work injury rates. The members believed that both parts (a) and (b) of paragraph 5.2 had been satisfied in this case in that there was a clear record of an incident (lifting the heavy luggage) and the company doctor had stated that the disability could have arisen out of the incident described.

CASE 580 (5.15)

An employee assigned to clean out a small oil storage tank wrenched his right knee on climbing out of the manway opening. During the night the knee started to stiffen. The following day he reported the incident, and was examined by the plant physician who stated that no treatment was required. The employee worked at his job with no apparent impairment of his right knee for nearly two months. Then one day he was in a crouched position inserting a plug in a pump, and on completion of the job he attempted to arise but could not straighten his right leg.

He was taken to the medical office where the plant physician attended him and prescribed treatment. For nearly a month the employee received daily treatment at the plant's dispensary in accordance with the plant physician's direction. At the end of this time, because of insufficient improvement, he was referred to an orthopedic specialist who prescribed continuation of treatments at the plant dispensary but added that if the knee didn't straighten completely, the employee might need surgery.

Daily treatment continued with noticeable improvement until one month later when the employee appeared at the medical office with a severe limp and stated that the evening before he had twisted his knee when he slipped on an icy sidewalk near his home. He was examined by the plant physician, and additional treatment was prescribed and administered for a week at the end of which time, because improvement was not satisfactory, the plant physician reviewed the case again with the orthopedic specialist, and surgery was agreed upon.

Decision: The committee concluded that this injury should be included in the rates. The members noted that the orthopedic specialist had originally indicated that an operation might be necessary, and they believed the incident of the employee's slipping on an icy sidewalk demonstrated that the original injury had not been corrected by simple treatment, and that surgery was necessary.

CASE 581 (5.3)

An employee who had had treatment in the past for cardiovascular disease was in the men's locker room when electrical power failed during the course of severe thunderstorms. He went out of the locker room and started up the aisle to his workpoint—about 200 feet away on the same floor level. In the darkness he bumped into a pile of empty skids in the aisle. Although that was not the normal storage place for the skids, the employee said he had noticed them before he entered the locker room. He was not hurt badly, but had made sufficient contact to cause him to limp or hobble the rest of the way to his station at a glass pressing machine. At the press he first made some adjustments affecting the flow of molten glass, and then started around to the other side of the machine to check the steam supply. About halfway there he began to feel severe pains in his chest, and staggered to a chair where he slumped down. About two minutes had elapsed from the time the lights went out until the employee suffered the pain. A doctor and ambulance were summoned, and the employee was hospitalized for several weeks, his pain having been diagnosed as a heart attack (posterior coronary occlusion).

The company doctor was of the opinion that emotional exertion and not so much physical exertion had contributed heavily to the attack. This emotional exertion was a combination of the sudden darkness, the shock of bumping into something in the darkness, and an internal excitement created by the fact that the employee, being very conscientious, would respond in an emergency rather hurriedly.

Decision: The committee decided that the lost time should be included in the work injury rates on the basis that paragraph 5.3 is very specific in specifying that when a circumstance of the employment aggravates a pre-existing physical deficiency, the aggravation shall be considered a work injury. In this case the company doctor had indicated that an emotional exertion induced by conditions associated with the employment did contribute heavily to the occurrence of the heart attack.

PUBLISHED STANDARDS NOW AVAILABLE

If your company is a member of the American Standards Association, you are entitled to receive membership service copies of these newly published American Standards. Find out who your ASA contact is in your company. Order your American Standards through him. He will make sure your company receives the membership service to which it is entitled.

CHEMICAL INDUSTRY

Common Name for the Pest Control Chemical 2-diphenylacetyl-1-, 3-indandione: diphacinone, K62.13-1958 $0.35

Common Name for the Pest Control Chemical *O*-2-chloro-4-nitrophenyl *O*, *O*-dimethyl phosphorothioate: dicapthon, K62.14-1958 $0.35

Common Name for the Pest Control Chemical 2-chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphate: phosphamidon, K62.15-1958 $0.35

Common Name for the Pest Control Chemical *O*, *O*-dimethyl *S*-(*N*-methylcarbamoylmethyl) phosphorodithioate): dimethoate, K62.16-1958 $0.35

Sponsor: U. S. Department of Agriculture

ELECTRIC AND ELECTRONIC

Schedules of Preferred Ratings for Alternating- and Direct-Current Low Voltage Air Circuit Breakers, C37.16-1958 (Revision of C37.16-1956) $0.40

Sponsor: Electrical Standards Board

Electrolytic Capacitors (For Use Primarily in Transmitters and Electronic Instruments), Requirements for, C83.15-1958 (Revision of C83.15-1956) $0.80

Sponsor: Electronic Industries Association

Circular Waveguides, Requirements for, EIA RS-200; ASA C83.19-1958 $0.30

Specialty Transformers, Requirements and Terminology for, C89.1-1957 $3.00

Sponsor: National Electrical Manufacturers Association

Standards of rating, dielectric strength losses and impedance, regulation, temperature rise, construction, marking, service conditions, and definitions for general purpose, control, machine tool, Class 1, signalling, ignition, and luminous tube specialty transformers. Used in machine tools, oil burners, bell transformers, signs, remote control, etc.

Residential Wiring Handbook, C91.1 1958 $0.25

Sponsor: Industry Committee on Interior Wiring Design

GAS-BURNING APPLIANCES

Addenda (Z21.1.1b-1958) to American Standard Approval Requirements for Domestic Gas Ranges, Volume I, Free Standing Units, Z21.1.1-1956 $0.50

Addenda (Z21.1.2b-1958) to American Standard Approval Requirements for Domestic Gas Ranges, Volume II, Built-In Domestic Cooking Units, Z-21.1.2-1956 $0.50

Addenda (Z21.5b-1958) to American Standard Approval Requirements for Domestic Gas Clothes Dryers, Z21.5-1956 $0.50

Addenda (Z21.6a-1958) to American Standard Approval Requirements for Domestic Gas-Fired Incinerators, Z-21.6-1947 $0.15

Addenda (Z21.10.1b-1958) to American Standard Approval Requirements for Gas Water Heaters, Volume I, Z21.10.-1-1956 $0.25

Addenda (Z21.10.2b-1958) to American Standard Approval Requirements for Gas Water Heaters, Volume II, Side-Arm Type Water Heaters, Z21.10.2-1956 $0.25

Addenda (Z21.11b-1958) to American Standard Approval Requirements for Gas-Fired Room Heaters, Z21.11-1946 $0.25

Addenda (Z21.16a-1958) to American Standard Approval Requirements for Gas Unit Heaters, Z21.16-1957 $0.50

MATERIALS AND TESTING

Trisodium Phosphate, Specification for, ASTM D 538-57; ASA K60.12-1958 (Revision of ASTM D 538-55T; ASA K60.12-1956) $0.30

Sponsor: American Society for Testing Materials

MISCELLANEOUS

Preferred Numbers, Z17.1-1958 (Revision of Z17.1-1936) $1.00

Sponsor: American Institute of Electrical Engineers

AMERICAN STANDARDS UNDER WAY

Status as of October 17, 1958

Legend — Standards Council — *Approval by Standards Council is final approval as American Standard; usually requires 4 weeks.* Board of Review — *Acts for Standards Council and gives final approval as American Standard; action usually requires 2 weeks.* Standards Board — *Approves standards to send to Standards Council or Board of Review for final action; approval by standards boards usually takes 4 weeks.*

BUILDING AND CONSTRUCTION

American Standards Approved

Installation of Glazed Ceramic Wall Tile in Cement Mortars, Specifications for, (Including Requirements of Related Divisions), A108.1-1958

Installation of Ceramic Mosaic Tiles in Cement Mortars, Specifications for, (Including Requirements of Related Divisions), A108.2-1958

Installation of Quarry Tile and Pavers in Cement Mortars, Specifications for, (Including Requirements of Related Divisions), A108.3-1958

Sponsor: Tile Council of America

In Standards Board

Gypsum Wallboard Finishes, Specifications for, A97.1- (Revision of A97.1-1953)

Sponsors: American Institute of Architects; Gypsum Association

CHEMICAL INDUSTRY

American Standard Approved

Common Name for the Pest Control Chemical *p*-chlorobenzyl *p*-chlorophenyl sulfide: chlorbenside, K62.20-1958

Sponsor: U. S. Department of Agriculture

DRAWINGS, SYMBOLS, AND ABBREVIATIONS

American Standard Approved

American Drafting Standards Manual, Section 9, Forgings, Y14.9-1958

Sponsors: American Society of Mechanical Engineers; American Society for Engineering Education

ELECTRIC AND ELECTRONIC

American Standards Approved

Pool-Cathode Mercury-Arc Power Converters, C34.1-1958 (Revision of C34.1-1949)

Sponsor: American Institute of Electrical Engineers

Current-Limiting Reactors, Requirements, Terminology, and Test Code for, C57.16-1958 (Revision of C57.16-1956)

Sponsor: Electrical Standards Board

AMERICAN STANDARDS UNDER WAY . . .

(Continued)

Fluorescent Lamp Ballasts, Specification for, C82.1-1958 (Revision of C82.1-1956)

Sponsor: Electrical Standards Board

In Standards Board

Power Circuit Breaker Bushings, Electrical Characteristics of, and Power Circuit Breaker Bushings, Bushing Current Transformers and Their Mountings, Dimensions of, C37.4a- (Supplement to C37.4-1953)

Sponsor: Electrical Standards Board

Distribution, Power, and Regulating Transformers and Reactors Other Than Current-Limiting Reactors, Requirements, Terminology, and Test Code for, C57.12- (Revision of C57.12-1956, including supplements C57.12c-1957, C57.12d-1957)

General, C57.12.00-

Transformers, 67,000 Volts and Below, 501 Through 10,000 kva, 3 Phase; 501 Through 5000 kva, 1 Phase, C57.12.10-

Overhead-Type Distribution Transformers, 67,000 Volts and Below, 500 kva and Smaller, C57.12-20

Three-Phase Load-Tap-Changing Transformers, 67,000 Volts and Below, 1000 kva Through 10,000 kva, C57.12.30-

Terminology: C57.12.80-

Test Code, C57.12.90-

Sponsor: Electrical Standards Board

Rubber Insulating Tape, Specifications for, ASTM D119-57T; ASA C59.6- (Revision of ASTM D119-48T; ASA C59.6-1952)

Varnishes Used for Electrical Insulation, Methods of Testing, ASTM D115-55; ASA C59.30-

Varnished Cotton Fabrics and Varnished Cotton Fabric Tapes Used for Electrical Insulation, Methods of Testing, ASTM D295-58; ASA C59.31-

Product Uniformity of Phenolic Laminated Sheets, Methods of Test for, ASTM C634-44; ASA C59.32-

Dimensions of Rigid Tubes Used for Electrical Insulation, Methods of Measuring, ASTM D668-52; ASA C59.33

Dimensions of Rigid Rods Used in Electrical Insulation, Methods of Measuring, ASTM D741-52; ASA C59.34-

Varnished Glass Fabrics and Varnished Glass Fabric Tapes Used for Electrical Insulation, Methods of Testing, ASTM D902-56; ASA C59.35-

Silicone Insulating Varnishes, Methods of Testing, ASTM D1346-57; ASA C59.36-

Ozone Resistant Rubber Insulating Tape, Specifications for, ASTM D1373-57T; ASA C59.37-

Silicone Varnished Glass Cloth and Tape for Electrical Insulation, Specifications for, ASTM D1459-57T; ASA C59.38-

Sponsor: American Society for Testing Materials

14-Watt T-12 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.403- (Revision of C78.403-1951)

15-Watt T-8 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.404- (Revision of C78.404-1951)

15-Watt T-12 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.405- (Revision of C78.405-1951)

20-Watt T-12 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.406- (Revision of C78.406-1955)

32-Watt T-10 12-Inch Circular Preheat-Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.413- (Revision of C78.413-1951)

40-Watt T-10 16-Inch Circular Rapid-Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.415-

22-Watt T-9 8-Inch Circular Preheat-Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.416-

40-Watt T-12 Rapid Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.700-

96-Inch (800 ma) T-12 Rapid Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.702-

72-Inch T-12 Rapid Start (Recessed Double Contact) Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.703-

Sponsor: Electrical Standards Board

Glass Bulbs Intended for Use with Electron Tubes and Electric Lamps, Nomenclature for, C79.1- (Revision of C79.1-1954)

Sponsor: Electrical Standards Board

Shockproof Cable Terminals and Receptacles for Use on X-Ray Equipment, Specifications for, C86.1-

Sponsors: National Electrical Manufacturers Association; General Services Administration

Reaffirmation Being Considered

Molded Glass Flares Intended for Use with Electron Tubes and Electric Lamps, Nomenclature for, C79.2-1954

Sponsor: Electrical Standards Board

HIGHWAY TRAFFIC

American Standards Approved

Adjustable Face Traffic Control Signal Head Standards, D10.1-1958 (Revision of D10.1-1951)

Pre-Timed Fixed Cycle Traffic Signal Controls, D11.1-1958 (Revision of D11.1-1943)

Traffic-Actuated, Traffic Signal Controllers and Detectors, Specifications for, D13.1-1958 (Revision of D13.1-1950)

Sponsor: Institute of Traffic Engineers

MATERIALS AND TESTING

American Standards Approved

Specific Gravity and Absorption of Fine Aggregate, Method of Test for, ASTM C128-57; AASHO T 84-57; ASA A37.6-1958 (Revision of ASTM C 128-42; AASHO T 84-45; ASA A37.6-1943 (R1948)]

Making and Curing Concrete Compression and Flexure Test Specimens in the Field, Method of, ASTM C 31-57; AASHO T 23-57; ASA A37.17-1958 (Revision of ASTM C 31-55; AASHO T 23-49; ASA A37.17-1957)

Securing, Preparing, and Testing Specimens from Hardened Concrete for Compressive and Flexural Strengths, Methods of, ASTM C 42-57; AASHO T 24-57; ASA A37.20-1958 (Revision of ASTM C 42-49; AASHO T 24-49; ASA A37.20-1951)

Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading), Method of Test for, ASTM C 78-57; AASHO T 97-57; ASA A37.22-1958 (Revision of ASTM C 78-49; AASHO T 97-49; ASA A37.22-1951)

Lightweight Pieces in Aggregates, Method of Test for, ASTM C 123-57T; AASHO T 113-57; ASA A37.25-1958 (Revision of ASTM C 123-53T; AASHO T 113-45; ASA A37.25-1957)

Calcium Chloride, Specifications for, ASTM D 98-56T; AASHO M 144-57; ASA A37.37-1958 (Revision of ASTM D 98-48; AASHO M 144-55; ASA A37.37-1951)

Moisture-Density Relations of Soil-Cement Mixtures, Methods of Test for, ASTM D 558-57; AASHO T 134-57; ASA A37.50-1958 (Revision of ASTM D 558-44; AASHO T 134-45; ASA A37.50-1948)

Wetting-and-Drying Test of Compacted Soil-Cement Mixtures, Methods of, ASTM D 559-57; AASHO T 135-57; ASA A37.51-1958 (Revision of ASTM D 559-44; AASHO T 135-45; ASA A37.51-1948)

Freezing-and-Thawing Tests of Compacted Soil-Cement Mixtures, Methods of, ASTM D 560-57; AASHO T 136-57; ASA A37.52-1958 (Revision of ASTM D 560-44; AASHO T 136-45; ASA A37.52-1948)

Emulsified Asphalt, Specifications for, ASTM D 977-57; ASA A37.55-1958 (Revision of ASTM D 977-53; ASA A37.55-1957)

Cement Content of Soil-Cement Mixtures Method of Test for, ASTM D 806-57; AASHO T 144-57; ASA A37.58-1958 (Revision of ASTM D 806-47; AASHO T 144-49; ASA A37.58-1948)

Sponsor: American Society for Testing Materials

MECHANICAL

American Standard Approved

Leaf Chain, B29.8-1958

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

In Board of Review

Inserted Blade Milling Cutter Bodies, B5.23-

Driving and Spindle Ends for Portable Air and Electric Tools, B5.38-

Sponsors: American Society of Mechanical Engineers; National Machine Tool Builders' Association; Society of Automotive Engineers; Metal Cutting Tool Institute; American Society of Tool Engineers

In Standards Board

Slotted and Recessed Head Wood Screws, B18.6.1- (Revision of B18.6.1-1956)

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

Lock Washers, B27.1- (Revision of B27.1-1950)

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

MISCELLANEOUS

In Standards Board

Guide for Quality Control, Z1.1-

Control Chart Method of Analyzing Data, Z1.2-
Control Chart Method of Controlling Quality During Production, Z1.3-

Sponsor: American Society for Quality Control

PETROLEUM PRODUCTS AND LUBRICANTS

In Standards Board

Flash Point by Pensky-Martens Closed Tester, ASTM D 93-58T; ASA Z11.7- (Revision of ASTM D 93-52; ASA Z11.7-1952)
Carbon Residue of Petroleum Products, Method of Test for, ASTM D 189-58; ASA Z11.25- (Revision of ASTM D 189-52; ASA Z11.25-1952)
Existent Gum in Fuels, ASTM D 381-58T; ASA Z11.36- (Revision of ASTM D 381-52T; ASA Z11.36-1953)
Knock Characteristics of Motor Fuels by Motor Method, ASTM D 357-58; ASA Z11.37- (Revision of ASTM D 357-56; ASA Z11.37-1956)
Vapor Pressure of Petroleum Products, ASTM D 323-58; ASA Z11.44- (Revision of ASTM D 323-56; ASA Z11.44-1956)
Carbon Residue of Petroleum Products, Ramsbottom Coking Method, ASTM D 524-58T; ASA Z11.47- (Revision of ASTM D 524-52T; ASA Z11.47-1952)
Neutralization Value by Potentiometric Titration, ASTM D 664-58; ASA Z11.59- (Revision of ASTM D 664-54; ASA Z11.59-1955)
Knock Characteristics of Motor Fuels by the Research Method, ASTM D 908-58; ASA Z11.69- (Revision of ASTM D 908-56; ASA Z11.69-1956)
Olefinic Plus Aromatic Hydrocarbons in Petroleum Distillates, ASTM D 1019-58T; ASA Z11.71- (Revision of ASTM D 1019-56T; ASA Z11.71-1956)
Apparent Viscosity of Lubricating Grease, ASTM D 1092-58T; ASA Z11.72- (Revision of ASTM D 1092-55; ASA Z11.72-1955)
Foaming Characteristics of Crankcase Oils, ASTM D 892-58T; ASA Z11.78- (Revision of ASTM D 892-46T; ASA Z11.78-1953)
Polarographic Determination of Tetraethyllead in Gasoline, Test for, ASTM D 1269-58; ASA Z11.98-
Effect of Copper on the Oxidation Rate of Grease, Test for, ASTM D 1402-58; ASA Z11.99-

Sponsor: American Society for Testing Materials

Reaffirmation Requested

Test Dropping Point of Grease, ASTM D 566-42; ASA Z11.51-1943 (R1947)

Sponsor: American Society for Testing Materials

PHOTOGRAPHY

American Standard Approved

16mm and 35mm Microfilms on Reels or in Strips, Practice for, PH5.3-1958 (Revision of Z38.7.8-1947)

Sponsor: American Library Association

In Standards Board

Front Lens Mounts for Cameras, Dimensions of, PH3.14- (Revision of PH3.14-1944)

Sponsor: Photographic Standards Board

Thiosulfate Content of Processed Black-and-White Photographic Film and Plates, Method for Determining the, PH4.8- (Revision of PH4.8-1953)
Radiographic Film Processing Tanks, Internal Dimensions for, PH4.17- (Revision of Z38.8.7-1946)
Photographic Filing Enclosures for Storing Processed Photographic Films, Plates, and Papers, PH4.20- (Revision of Z38.8.21-1950)
Photographic Grade Dry Mounting Tissue, Specification for, PH4.21-
Aluminum Potassium Sulfate, PH4.150- (Revision of Z38.8.150-1949)
Chromium Potassium Sulfate, PH4.151- (Revision of Z38.8.151-1949)
Potassium Persulfate, PH4.303- (Revision of Z38.8.181-1949)

Sponsor: Photographic Standards Board

Withdrawal Being Considered

Photographic Grade Sodium Sulfide, Fused, Specification for, Z38.8.182-1949

Sponsor: Photographic Standards Board

PIPE AND FITTINGS

In Standards Board

Gas Transmission and Distribution Piping Systems (Section 8 of the Code for Pressure Piping, B31.1-1955), B31.1.8- (Revision of B31.1.8-1955)

Sponsor: American Society of Mechanical Engineers

SAFETY

Withdrawal Being Considered

Leather Aprons, L18.1-1944
Leather Cape Sleeves and Bibs, L18.2-1944
Leather Leggings (Knee Length) L18.3-1944
Leather Coats, L18.4-1944
Leather Overalls, L18.5-1944
Leather Sleeves, L18.6-1944
Welders Leather Gauntlet Gloves, L18.7-1944
Protective Leather Gloves, Steel Stapled, L18.8-1944
Asbestos Gloves, L18.9-1944
Asbestos Gloves, Leather Reinforced, L18.10-1944
Asbestos Mittens, L18.11-1944
Asbestos Mittens, Leather Reinforced, L18.12-1944
Asbestos Aprons (Bib Type), L18.14-1944
Asbestos Cape Sleeves and Bibs, L18.15-1944
Asbestos Leggings (Knee and Hip Length), L18.16-1944
Asbestos Coats, L18.17-1944
Leather One-Finger Mittens, L18.18-1945
Leather Mittens, L18.19-1945
Asbestos One-Finger Mittens, L18.20-1945
Flame-Resistant Fabric Aprons (Bib Type), L18.21-1945
Flame-Resistant Fabric Leggings (Knee and Hip Length), L18.22-1945
Flame-Resistant Fabric Coats, L18.23-1945
Flame-Resistant Fabric Pants, L18.24-1945
Flame-Resistant Fabric Coveralls (Jumper Suits), L18.25-1945
Flame-Resistant Fabric Spats, L18.26-1945
Leather Spats, L18.27-1945
Asbestos Spats, L18.28-1945
Chemical-Resistant Gloves, L18.29-1945

Sponsor: Industrial Safety Equipment Association

WOOD AND WOOD PRESERVATIVES

In Standards Board

Testing Small Clear Specimens of Timber, ASTM D 143-52; ASA O4.1- (Revision of ASTM D 143-27; ASA O4a-1927)
Establishing Structural Grades of Lumber, Methods for, ASTM D 245-57T; ASA O4.3-
Wood Poles, Methods of Static Tests of, ASTM D 1036-55T; ASA O4.4-
Definitions of Terms Relating to Timber, ASTM D 9-30; ASA O4.5-
Domestic Hardwoods and Softwoods, Nomenclature of, ASTM D 1165-52; ASA O4.6-
Round Timber Piles, Specifications for, ASTM D 25-55; ASA O6.1- (Revision of ASTM D 25-37; ASA O6-1939)
Veneer, Plywood, and Other Glued Veneer Constructions, Methods of Testing, ASTM D 805-52; ASA O7.1-
Definitions of Terms Relating to Veneer and Plywood, ASTM D 1038-52; ASA O7.2-
Evaluating the Properties of Building Fiber-Boards, Methods of Test for, ASTM D 1037-56T; ASA O8.-1
Wooden Paving Blocks for Exposed Pavements, Specifications for, ASTM D 52-20; ASA O9.1-
Creosoted End-Grain Wood Block Flooring for Interior Use, Specifications for, ASTM D 1031-55; ASA O10.1-
Modified Wood, Specifications for, ASTM D 1324-57T; ASA O12.1-

Sponsor: American Society for Testing Materials

Reaffirmation Requested

Static Tests of Timbers in Structural Sizes, Methods of, ASTM D 198-27; ASA O4b-1927

Sponsor: American Society for Testing Materials

NEW LETTER SYMBOLS . . .

IN SELECTING the new American Standard letter symbols for petroleum reservoir engineering and electric logging, symbols already established as American Standard in other branches of science and engineering have been adopted where possible and supplemented as required. In addition, the symbols chosen can be printed as well as readily handwritten or typed.

The standard, designated Y10.15-1958, is based on work conducted in the years 1951 to 1956 by committees of the Society of Petroleum Engineers of the American Institute of Mining, Metallurgical, and Petroleum Engineers. It was recommended for approval as American Standard by Sectional Committee Y10, Letter Symbols.

American Standard Y10.15 is available at $1.50 per copy.

WHAT'S NEW ON AMERICAN STANDARDS PROJECTS

Dr William P. Yant, *left, director of research and development for Mine Safety Appliances Company, Pittsburgh, accepts the Arthur Williams Award for "outstanding contribution to the conservation of human life." Making the presentation is Cyril Ainsworth, president of the American Museum of Safety. Mr Ainsworth is deputy managing director of the American Standards Association. The award was presented to Dr Yant by the American Museum of Safety at the organization's annual dinner, held recently in New York City.*

Dr Yant has been a member of the Safety Standards Board of the American Standards Association since 1944, and is a member-at-large of the Sectional Committee on Allowable Concentrations of Toxic Dusts and Gases, Z37. He was chairman of the committee for many years.

Building Code Requirements and Good Practice Recommendations for Masonry, A41—

Sponsor: National Bureau of Standards

Members of the committee are now voting on a draft standard on reinforced masonry, A41.2. The draft offers requirements suitable for use in building codes that apply to the design and construction of reinforced masonry in building construction. It does not, however, include requirements for reinforced concrete, reinforced gypsum concrete, nor requirements concerning fire protection.

Attachment Plugs and Receptacles, C73—

Sponsor: National Electrical Manufacturers Association

A Correction for C73.1-1957

On page 17 of American Standard, Outlet Receptacles, Attachment Plug Caps and Appliance Plugs, C73.1-1957 (NEMA WDI-1956) the receptacle face dimension should be "2.258 max" not "2.258 min."

Metal Drums and Pails, MH2—

Sponsor: Steel Shipping Container Institute

This newly formed committee held its first meeting September 7 to discuss standards work for metal containers. Proposed revisions of ten American Standards for metal drums and pails ranging from 5 to 55 gallons will be part of the committee's future work.

The project has had an unusual history:

In 1950, the Steel Shipping Container Institute began to cooperate with the Petroleum Packaging Committee, the Manufacturing Chemists' Association, and other industry groups, as well as military and civilian government agencies in the development of standards of dimensions and construction for ten types of steel drums and pails.

In 1954, recommendations of these industries for drum and pail standards were published by the Steel Container Institute under the title, "Recommended Universal Standards for Steel Drums and Pails," and by the Packaging Institute as "Petroleum Packaging Committee Report No. 2."

In 1957, the ten specifications for steel drums and pails were submitted to the American Standards Association (ASA) for approval as American Standards. ASA canvassed all organizations that were expected to have a substantial interest in the specifications in order to determine whether the proposals were supported by a national consensus.

In March, 1958, ASA called a general conference to discuss comments received as a result of the canvass and to make arrangements for future revisions of the standards. The most important outcome of the conference was the formation of a new sectional committee to deal with national standards for metal drums and pails.

The first meeting of the new Sectional Committee on September 17 set up a task force consisting of two representatives of each association. The task force will be concerned with the technical aspects of the development, review, and revisions of the standards. It will also explore new areas of standardization in the drum field.

Anesthetic Equipment, Z79—

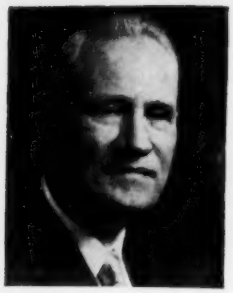
Sponsor: American Society of Anesthesiologists, Inc

In a clarification of this committee's activities, a change in its scope has been approved to include "units of measure" and to define more specifically the equipment to be covered. Whereas it initially limited its scope to endotracheal tubes, it now includes all anesthesia connecting pieces. The scope now reads:

Terminology, definitions, units of measure, identification, dimensions and tolerances, and methods of test of anesthesia connecting pieces — including breathing tubes, masks, and bags—from the patient to the anesthesia machine.

Shop-Fabricated Vertical and Horizontal Metallic Storage and Processing Tanks—

The Chemical Industry Advisory Board is polling its members on whether they agree it would be desirable for the American Standards Association to initiate a project on standardization of metallic storage and processing tanks. A recommendation for initiation of the project was received from the Mechanical Technical Committee of the Manufacturing Chemists Association. If the CIAB members agree that such a project is desirable, the Board will proceed as it has on such items as centrifugal pumps and heat exchangers and will make this proposal to ASA on the grounds that it will involve significant savings to the users and fabricators of such equipment.



DINNSA

(Does Industry Need a National Standards Agency?)

by **Cyril Ainsworth**

Mr Ainsworth has served for many years as Technical Director of the American Standards Association. He is now Deputy Managing Director and Assistant Secretary.

The last objective of ASA outlined in its constitution places ASA squarely in the forefront in international standardization work. The objective is:

> To act as the authoritative American channel in international cooperation in standardization work, except in those fields adequately provided for by existing international organizations.

It is interesting to note that while the original constitution of the American Engineering Standards Committee, as ASA was first called, contained nothing about international work, the AESC at its first meeting on October 19, 1918 voted that a formal invitation be sent to the British Engineering Standards Association (now the British Standards Institution) for the establishment of cooperative relations. Five months later, ASA received an invitation from the BESC to confer in London on ways and means of cooperating with one another. The invitation was accepted. In this way, the international work of ASA began.

From this point on, things moved fast. The Main Committee of AESC held meetings in rapid succession. These meetings were necessary for planning a reorganization of the membership structure needed if AESC were to undertake the national safety code standardization program then under consideration by a national conference convened by the Bureau of Standards. On November 1, 1919, a new constitution, bylaws, and rules of procedure were approved by AESC. Among the objectives specified were:

> To promote in foreign countries the knowledge of recognized American Engineering Standards; To act as the authoritative channel of cooperation in international engineering standardization.

Thus within one year after the AESC was born, it was fully established as the agency through which American groups could participate in international standardization work.

At the same meeting in which the new constitution was approved, action was taken accepting the invitation of the British for AESC to arrange for a conference on the standardization and unification of screw threads. As part of this action, the present ASA project B1, Screw Threads, was initiated. This was a significant development. By this action, national leadership in screw thread standardization changed hands from government to industry and technology, and international cooperation in the field began. It was 29 years later, however, on November 18, 1948, that unification of screw threads was attained.

The great expansion of the interest of the United States in world-wide political, economic, and technical affairs, largely under the national defense activities of the Federal Government, has led to the question: By what authority does ASA set itself up as the authoritative channel for communication in international standardization? The inference behind the question has always been that only government could confer such authority and that the Government should be the authoritative channel.

The history cited above shows how naturally the work of ASA in the international field began. It was the natural desire for cooperative relations with sister institutions which led to ASA operations. This was particularly true in the case of the British Engineering Standards Association, which had built a body of experience in its 18 years of work. This led to the work on screw threads. Standardization breeds on cooperation. It was inevitable that cooperation between the national standards bodies of the world on an exchange of information and experience basis would lead to a desire for cooperation on the technical level.

But what about the government angle? It must be remembered that three departments of the Federal Government were elected Founder Members of AESC by the five technical societies that organized ASA. They participated in the development and voted for the revised constitution approved November 1, 1919. The Government membership in ASA increased over the years until ten departments and agencies were within the ASA federation. The Government voted for the revised constitution adopted in 1928 when AESC was changed into the present ASA and which contained the present international objectives.

History clearly indicates that both Government and industry gave ASA the authority to set itself up as the channel for international communication in standardization. ASA received a true national mandate. This is the way in which it was intended that Government and industry should work together through ASA in standardization, national and international.

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55-Gallon Tight Head Universal Drum (ICC-17C), MH2.4-1958

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